AMERICAN

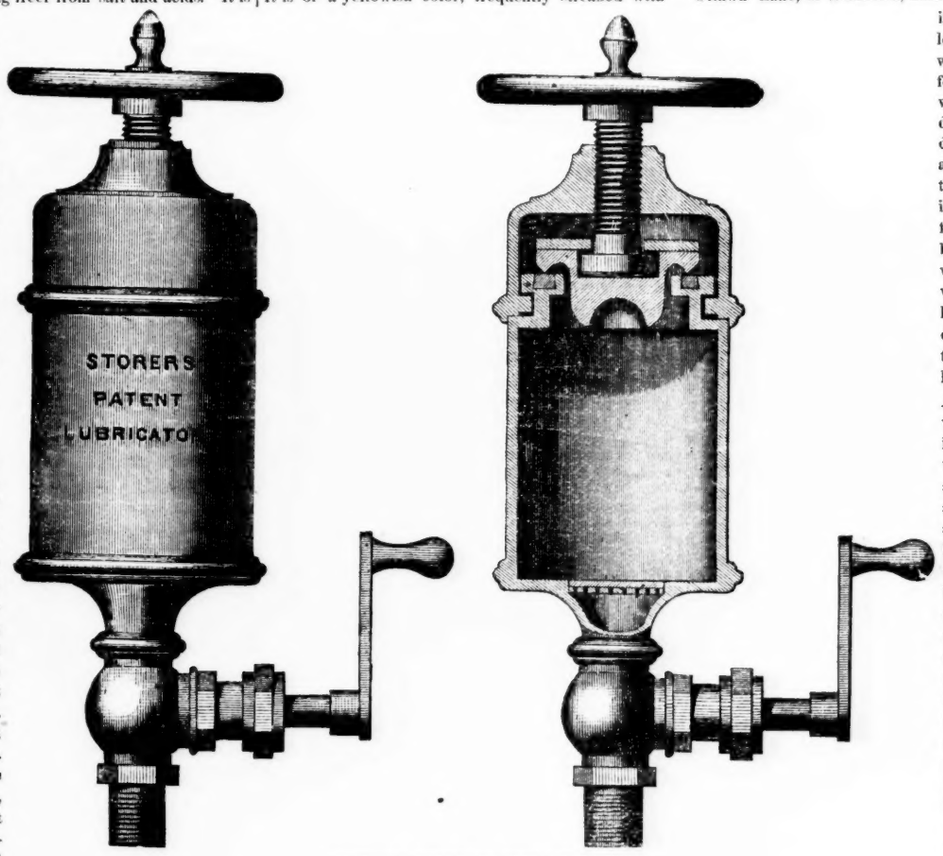
Journal of Mining,

Milling, Oil-Boring, Geology, Mineralogy, Metallurgy, etc.

VOLUME II. } NEW YORK, FEBRUARY 2, 1867. { $4 A YEAR IN ADVANCE.
NUMBER 19. } { SINGLE COPIES TEN CENTS.

PATENT LUBRICATOR.

We this week present excellent illustrations of "Storer's Patent Open Top Suet Lubricator"—Messrs. Stephen J. Geoghegan & Co., 199 and 201 Centre street, manufacturers. For lubricating the cylinders of steam engines, steam pumps, stamp mills, and mining machinery generally, suet is one of the best articles known, being freer from salt and acids. It is fed in bulk, and is melted gradually, the supply being constant and uniform. This is a great advantage over oil, which, besides costing much more, is carried off very rapidly — its effect being only felt at intervals.—This Lubricator is made in a strong and substantial manner, consequently requiring little expense.



STORER'S OPEN TOP SUET LUBRICATOR.

Magnesium.

Many chemists and metallurgists had hopes that the metal magnesium, so little useful by itself except for illuminating and pyrotechnic purposes, might with other metals form valuable alloys which could be put to useful purposes. This hope has been dispelled by Mr. Parkinson, of the School of Mines, who, at the last meeting of the Chemical Society read a paper on the Alloys of Magnesium, in which he showed that these compounds are exceedingly brittle, and most of them easily acted on by the air. The most permanent of all the alloys is that with zinc, but even this at present seems susceptible of no practical application. Mr. Parkinson also described compounds of magnesium with some of the metalloids. The most interesting of these is the silicide of magnesium, which is made by strongly uniting a mixture of magnesium filings with fine sand. The compound thus formed gives off spontaneously inflammable siliciuretted hydrogen when dropped into water or a dilute acid. Mr. Parkinson made some of his experiments in glass tubes, and found that the magnesium in some cases entered into combination with the silicia of the glass, fragments of which dropped into dilute hydrochloric acid give off the same self-igniting gas.—*Mech. Mag.*

Amber.

Amber, so extensively employed as mouthpieces for meerschaum pipes and segar holders, is believed to be a fossilized vegetable gum or resin. Anciently a fabulous origin was attributed to it. As it was found on the seashore after a storm, it was said to be the solidified tears of the sisters of Phaeton, or of sea nymphs. It is of a yellowish color, frequently streaked with milky white, the yellow color being semi-transparent. Those specimens which have a clouded milky appearance are the most highly valued, as the clear yellow can be imitated by recent and cheaper gums. It is singularly electrical, when rubbed, developing negative electricity to such a degree in manufacturing it into the forms in which it is sold, that the workmen are sometimes affected with nervous tremors, and they are obliged frequently to change the pieces they handle. It is found on the Baltic coast of Prussia, either washed ashore after a gale, or entangled in masses of seaweed. Mines of it are also wrought in Prussia. It is found in this country at Amboy, N. J.; at Gay Head, Martha's Vineyard; and at Cape Sable, in Maryland. Leaves of fossil plants and tropical insects are sometimes found imbedded in it, a fact that has given rise to some pretty poetical conceits. In the East it is highly valued, and has been used as a form of concentrated wealth, as are diamonds and other precious stones. When heated, it exhales an agreeable odor, and for this among other reasons, is in great request as mouthpieces for pipes.—*Scientific American.*

A Lake with a Hole in the Bottom.

Ottawa Lake, in Whiteford, Monroe county, Mich., is about two miles long and a half wide, and about forty feet deep, when full, in the deepest part. It discharges a large amount of water in the spring through its outlet which forms the north branch of the Ottawa Creek at Sylvania. This lake has been nearly dry three or four times within the last thirty years. At such times a whirlpool is seen in the centre, into which cakes of ice and other floating articles are drawn and disappear; and if you are near this whirlpool, you will hear the roar of this waterfall. In winter of 1862-3 the ice over where the whirlpool is when the water is low was broken, and cakes of it thrown on the other ice by air escaping from below, and the lake settled about five inches in 12 hours. Samuel Stacy and others were on the lake at the time, and some boys were skating near the very spot when the bursting up of the ice occurred. There is an abundance of fish in the lake, and some pike have recently been caught weighing fourteen pounds. The most mysterious part is the throwing up of the ice. Can any one explain the mystery?

The Silesian Gas Reverberatory Furnace.

The comparative scarcity of fuel and its inferior quality in some parts of Germany have led to careful experiments with the view of economizing it in the manufacture of iron. The result has been that a system of gas reverberatory furnaces are now, and have

for some years past, been in use in Germany and other parts of the continent. The most simple and efficient form is known as Eck's furnace, which is employed at the Government Smelting Works at Gleiwitz and Konigshutte, in Upper Silesia. The gas generator (which replaces the fire-place of the ordinary reverberatory furnace) is an oblong chamber, 3ft. 9in. wide and 6ft. 4in. high, from the sole to the commencement of the sloping bridge. It tapers slightly towards the top, so as to facilitate the descent of the fuel, which is introduced through a lateral opening near the top of the generator. Its cubical contents are about 44 feet. The air necessary for the production of the gas is supplied by a feeble blast, and enters the generator from the two openings or tuyeres of a long air-chest of iron plate fixed at the back of the chamber, near the bottom. The space between the air-chest and the sole of the chamber serves as a receptacle for the slag and ash from the fuel. There are openings in the other side of the chamber, opposite the tuyeres, which are generally closed by iron plugs, but are required when the tuyeres have to be cleaned out. There is an opening below the air-chest, through which fire is introduced into the chamber, when the furnace is set at work, and which is then bricked up, until, at the expiration of about fourteen days, it becomes necessary to let the fire die out, when the slag and ashes which have accumulated on the sole of the chamber are removed through this opening. The hearth of the furnace is constructed of a somewhat loamy sand, this material being best adapted to withstand the high temperature obtained in this furnace. Its general thickness is about 6in.; its form is that of a shallow dish, with a slight incline towards the tap-hole. A rapid circulation of cold air below the fire-bridge and the plate of the hearth is provided for; if this were not the case, the iron would soon penetrate through the hearth. Figs. 8 and 9 represent the upper oblong air-chest, provided with a series of tuyeres, which enter the top of the furnace just over the fire-bridge at an angle of 30 deg. The air forced into the furnace through these tuyeres serves to inflame and burn the gases rushing out of the generator, and the direction of the blast throws the resulting flame down upon the metal on the hearth, in front of the bridge. This air-chest communicates, like the other one, by pipes, with the air-accumulator of the neighboring blast furnace. The amount of pressure employed is about 4lbs.; but the supply of air, both to the generator and the inflammable gases, admits of accurate regulation by means of valves in the connecting pipes. There is an opening in the arch, at both sides of the furnace, not far from the bridge, into which, at a certain stage of the operation, tuyeres are introduced (being placed at an angle of 25 deg.), also connected with the blast apparatus, and provided with regulating valves.—*Mechanics' Magazine.*

Depths of Mines in England.

An English journal, after valuing the total product of the mines of Great Britain at £41,491,102 per annum, and computing that England's supply of coal will last at least seven hundred years longer, at present rates of consumption, gives the following account of the depth to which the bowels of the earth have been pierced in England. The depth to which we mine for coal is already great. The pit at Dunkenfield, in Cheshire, 2004 feet below the surface to the point where it intersects the "Black Mine Coal," a seam that is four feet six inches thick, and of the best quality for domestic and manufacturing purposes; from this point a further depth of 500 feet has been attained by means of an engine plane in a bed of coal, so that a great portion of the coal is raised from the enormous depth of 2504 feet. At Pendleton, near Manchester, coal is daily worked from the enormous depth of 2504 feet; and the coal of Wigan is brought from 1773 feet below the surface. Many of the Durham collieries are equally deep and far more extended in their subterraneous labyrinths. Some of those, and others in Cumberland, are worked far out under the bed of the sea; and on both sides of the island we are rapidly extending our subterranean burrowing. Dolcoath tin mine, in Cornwall, is now working at 1800 feet from the surface, and is rapidly sinking deeper. The depth of Tresvean, a copper mine, approaches these depths; and, under the Atlantic waves, man is pursuing his labors daily at half a mile from the surface. To aid the miner in these severe tasks, the gigantic steam engines, with cylinders 100 inches in diameter, are employed in pumping water from these vast depths. Winding machines, which are masterpieces of mechanical skill, are ever at work, raising the minerals from each dark abyss; and "man engines," of considerable ingenuity—so called because they bring the wearied miner to the light of day, saving him from the toil of climbing on perpendicular ladders—are introduced in many of our most perfectly conducted mines. Our coal costs us annually one thousand lives, and more than double that number of our metalliferous miners perish from accidents in the mines, and at an unusually early age—thirty-two—from diseases contracted by the condition of their toils. By the industry of our mining population there is annually added to our national wealth considerably more than £30,000,000. This, when elaborated by the process of manufacture, is increased in value ten-fold.

Mining Summary.

GOLD AND SILVER.

Special Commissioner J. Ross Browne's recent report to the Secretary of the Treasury, embracing the country west of the Rocky Mountains, is condensed thus: The product of gold and silver for Oregon, California, Nevada and Washington Territory, is estimated as follows:

In 1861	$43,391,000	In 1864	$63,450,000
In 1862	49,570,000	In 1865	70,000,000
In 1863	52,500,000		

Well-informed persons estimate the product for 1866 as follows:

California	$25,000,000	Oregon	$8,000,000
Montana	18,000,000	Other sources	5,000,000
Idaho	17,000,000		
Colorado	17,000,000	Total	$106,000,000
Nevada	16,000,000		

This is four times as great as the total product of the world less than thirty years ago. For the last thirteen years, the yield of gold in California has been decreasing, but the yield of the quartz mines on the Pacific Coast is increasing slowly. The following table shows the exportation of treasure from California manifested at San Francisco:

1849	$4,921,250	1858	$47,548,025
1850	27,676,246	1859	47,649,462
1851	42,582,695	1860	42,203,345
1852	46,588,434	1861	40,639,080
1853	57,330,034	1762	42,561,761
1854	54,328,653	1863	46,071,920
1855	45,182,631	1864	55,707,294
1856	48,880,543	1865	44,984,516
1857	48,976,697		

In 1861, according to Prof. Ashburner's statistics, there were twenty-eight quartz mills in California. The cost of extracting the quartz in 28 of these is reported at $2, and less than $3 as the minimum, and $36 as the maximum expense. In seven miles, the cost of stamping ranged from 60 cents and less than $1 to $3, and less than $4 per ton. In thirteen mills the cost of treatment ranged from $1 and less than $1 50 per ton to $8 41. The lowest loss of mercury in working 1,000 pounds of quartz is seven pounds of mercury, and the highest 198 pounds, the yield in the former being reported at $25 per ton, and the latter at $17 14 per ton. In 1865, Mr. A. Remond, in the service of State Geological Society of California, visited the districts lying between the Merced and Stanislaus rivers, from whose report it appears that the average width of lodes ranged from one foot to twenty-eight feet; the average gold per ton from $1 to $180; the average cost of extraction per ton, from $1 to $60; the average cost of transportation to mill, from 25 cents to $11, and the average cost of treatment, from 75 cents to $7. In mine No. 48 (Watt's) the vein is only two inches thick, and it costs $60 to get out a ton of ore, producing a yield of $180 per ton, while in No. 52 (Old Whiskey Hill,) it costs only 50 cents to take out a ton of rock from a vein fifteen feet wide, yielding an average of $15 per ton. Out of sixty-seven mills, thirty-eight were not running, two were ruined, and two unfinished. The cost of eleven mills was under $2,000 each; of twenty mills, it was between $3,000 and $3,900, inclusive; of fourteen, it was between $5,000 and $9,000, and of 14, it was $10,000 or more, in one case being $42,000. The lowest number of stamps in a mill was three, and the highest thirty-five. The power used in fifty-two mills was water; in eleven mills, steam; in three, water and steam. Grass Valley, in Nevada county, Cal., is the most productive gold quartz mining district in the world, the annual yield of an area within a radius of four miles being $3,500,000, an average of $1,700 to each laborer employed in the mines. The total product of the Hayward claim, one of the most notable mines in California first opened in 1861, is said to be $5,000,000. For the year ending September 30, 1866, the receipt of bullion from the Allison mine at Grass Valley was $531,431 41, and the net profits $368,042 18. The richest placer mine in the State is that of the Blue Gravel Mining Company, at Smartsville, in Yuba county. The yield from March, 1864, to September, 1866, was $599,948. The Comstock lode, in Nevada, is the most productive in the world, a strip of land, six hundred yards wide, and three miles long, yielding $12,000,000, annually. For 1866, the yield was $16,000,000, and the total yield since 1859 has been $70,725,000, being only $50,000 the first year, and $100,000 the second. The fluctuations in mining shares in the earlier periods of mining speculations is curious. In the early part of the summer of 1859, the Ophir ground in Nevada, could be bought for $100, and the Gould & Curry $3 per foot. In less than eight months the former had risen to $1,000 per foot, and the latter to $600 per foot. In less than two years from that time the Gould & Curry was selling at the rate of $5,000 per foot, but one year thereafter at less than $1,000; in April, 1865, it sold for a little over $3,000, and now can be bought for about $500 per foot. While some at Gold Hill have fluctuated still more widely, this is not considered an extreme case. Of the one hundred and seventy-nine mills in Nevada, eighty-eight, carrying 1,440 of the 2,564 stamps, are in the Washoe district. These mills have a capacity equal to 3,841 horse power and cost, in the aggregate, over $5,500,000, all the other mills in the State having but 2,481 horse-power and costing $5,500,000. The Reese river region contains thirty-two mills, carrying three hundred and ten stamps, with a capacity of four hundred and ten horse-power, and costing $1,500,000. The product of the State is readily calculated when it is remembered that from the Comstock lode is extracted more than 90 per cent. of all the bullion produced in Nevada. The yield of the mines in Oregon for the present year do not exceed $2,000,000, nearly the whole being the products of placer diggings. The yield of Washington Territory is put down at $1,000,000, though three-quarters of this amount is the product of British Columbia. The public press of Montana claim that the product of the Territory for the year will reach $15,000,000; but this is thought too high an estimate. The product of Idaho will not fall short of $10,000,000, some estimating it much higher.

Nevada.

The Comstock.—The Virginia City *Enterprise*, Jan. 6, says: We present the following report of bullion shipped from the office of Wells, Fargo & Co., in this city, during the past year of 1866, just merely to give some idea of the vast amount of wealth produced from the great Comstock lode. This is independent of what is shipped from their office at Gold Hill or anywhere else:

January	$520,177 20
February	492,322 91
March	705,210 33
April	646,987 50
May	648,776 71
June	562,938 70
July	595,503 77
August	779,076 59
September	644,963 97
October	686,517 23
November	739,512 30
December	78,438 96
Total	$1,807,616 18

There were yesterday shipped from Wells, Fargo & Co.'s office, in this city, 11 bars of bullion, weighing 2,086 pounds, and worth, according to assay, $79,859 38. A pretty fair shipment for one day .... At Edwards & Wiegand's assay office, Gold Hill, yesterday, was a pile of twenty-seven silver bars, worth about $48,000, all from the Crown Point mine. The crude bullion used in the manufacture of these bricks, when brought to the office, weighed three-quarters of a ton. That is not bad for one lot of bullion. The new shaft of the Imperial and Empire companies has now attained a depth of seven hundred and fifty feet, and the work of sinking deeper is being actively prosecuted. At this rate it will be the deepest shaft in the State next spring.

Humboldt.—We learn that a despatch was received on the 25th Jan., by the Pioneer and Ino-kip M. and M. company of New York, from J. O. Fall, their Superintendent at Unionville, stating that their five hundred feet tunnel had reached a large and rich vein of mineral .... From the *Register*, of Dec. 22, we take the following: The Essex ledge has been followed by drift for some distance in two directions from the point at which it was struck. It maintains its width and richness, and may be accounted a proved and reliable mine .... Montgomery, of Humboldt City, sent over this week for record a deed bearing Internal Revenue stamps to the amount of $1,000. The deed is by G. T. Sewall, formerly of this county, conveying the Reveille ledge to the Knickerbocker company, organized in the State of Maine .... Lying in the store of Fall & Co. is one of the handsomest specimens of argentiferous quartz, from the Gem, we ever beheld. It weighs probably seventy pounds, and is corded in every direction with rich chlorides. The ledge has been followed about seventy feet from the point of striking, and continues of a substantial character, carrying about eighteen inches of this thick rock. Fall is working a lot of ore from the Gem at the Pioneer mill.... Several old settlers, who have during almost all the past three years been interested in the claim, have relocated the old Westerfield ledge, and are now sinking a working shaft, intending to keep on until they bring the mine up. The ledge is seven feet wide, and assays rich in silver—with copper and some gold..... Work on the North Star claim progresses finely. The tunnel is described to us as a beautiful work, high and straight; and yet it was pushed fifty-four feet in nine days. Four men are running the tunnel, while four others are sinking a shaft on the ledge.

Silver Bend.—The *Reveille*, Jan. 3, says that the pamphlet edition of the letters and telegrams of Jas. M. Banks, Esq., business manager and financial agent, in Nevada, of the Combination Silver Mining company of New York, is a clumsy and mean attempt to further a scheme of dishonest stock-jobbing, which has proved the bane of our mining interests..... Eleven tons of ore from the Woods and Buel location on the Highbridge, in the Silver Bend district, just reduced at the Keystone mill, yielded $2,280, averaging about $211 per ton.

Hot Creek.—The *Reveille*, Jan. 8, contains correspondence from Hot Creek, from which we extract as follows: The little mill of the Consolidated Silver Mining Company started up a few days since, and is now hammering away upon ore from the Keystone

mine. The ore is rich, and ought to work near $250 per ton. Mr. Gould, the general agent of the company, has just returned from the Reveille district, where he has purchased mines, set men at work, and already contracted with a party for the delivery from them to the mill at Hot Creek of one hundred tons of ore. This mill, though a miniature concern, will prospect the mines of this vicinity, and as the ore it is working is exceedingly rich, must make a tolerable showing of bullion. It can, therefore, be looked on on only as a precursor, or the pioneer of a large one, which the company is to erect the coming summer.

Reveille.—The excavation made on the Fisherman ledge shows a good body of fine chloride ore similar to that carried to Austin and worked at the Keystone mill. The owners of the Etna ledge have run a cut, which develops a good foot wall, and a large body of excellent ore. The Crescent is looking handsomely, although they have not yet gone across their ledge, but at a depth of twelve feet the character of the mineral had greatly improved. A great many discoveries have been made lately, and everybody seems pleased with the prospects. T. F. Gould, of Hot Creek, has purchased two mines here, called the Silver Star and Cincinnatus, and has put eight men to work on them. Messrs. Brobant & Kellogg have made a number of good locations south of the Fisherman ledge, and they are about to erect an arastra immediately for the purpose of working their ores.—*Ibid.*

Egan Canon.—We learn from Mr. John O'Dougherty, the Superintendent of the New York and Social company, that their mill has been in motion for a week, and will continue hammering away with every prospect of success. A year ago the Social company, as it was then called, under the management of Mr. O'Dougherty, was producing a larger amount of bullion from its five stamp mill, in proportion to its capacity, than any other mill in the region. The principally developed ledge of the company, in Gilligan, is being worked again, and is yielding as fine ore as of old.—*Ib.*

Cortez.—Mr. Charles Durning arrived in town yesterday afternoon, from Cortez, with sixteen hundred pounds of bullion from the mill of the Mount Tenabo company. We learn from Mr. Durning, who has been the manager of the mill for a number of months, that this amount was produced in twenty-eight days, of twelve hours each. The mill is ill-arranged and poorly furnished. For instance, it has a battery of thirteen stamps, four furnaces, and only four Varney pans. The battery crushed about six tons daily, and only three of the furnaces were employed, in consequence of insufficient amalgamating apparatus. The ore is packed a distance of eight miles from the mine to the mill, at a cost of $10 per ton. With this extraordinary charge, we understand that the entire expense of mining and milling the ore rates from $35 to $40 per ton. Some fifteen men only have been employed upon the mine, eight of whom were engaged in extracting ore.—*Ib.*

Twin River.—Some six hundred and fifty pounds of bullion were brought into town, yesterday, from the mill of the Twin River company.

Colorado.

The Denver *News*, Jan. 16th, contains correspondence from the Red Mountain mines, in which occurs the following: That these mines are rich, there is no longer any doubt. The veins that have been developed to the depth of from ten to twenty feet show a continuous vein of ore that assays very rich. The ores of this district undergo a remarkable change on increased depth. The surface iron is generally of a light gray color; as the shaft is increased in depth, it changes to a dark blue color, very compact, and permeated fine particles of galena, which assays very rich in silver. These lodes will undoubtedly pay well from the surface all the way down. The lodes of this region must be very rich, as fine gold is found all over the valleys and all the little ravines in the surface soil. The placer diggings of Lake county are unrivaled. The gold taken from all of them shows unmistakable evidence of its origin in the lodes .....A letter from Cash Creek Park mines, in the same paper, says: The mountains that surround the Park are known to be prolific in gold bearing lodes; many of them of extraordinary richness, which will account for the fact of gold being disseminated through the entire surface soil of Cash Creek Park, for literally speaking, it is one vast placer gold mine. It is almost impossible to find a single pan of dirt on the most elevated portions of the Park, that will not yield from one to half a dozen colors of gold, while all the principal gulches and small ravines that traverse it, are rich placer diggings, and will, when properly worked with the requisite amount of water, yield handsome dividends. Cash Creek Gulch has been mined for seven years with success, and now, under the management of Messrs. Lane & Co., bids fair to become one of the most prolific gold mines in Colorado. Large amounts of gold have been taken from the banks on either side of the gulch, but not a tithe of what it will be when proper appliances are used. Gold Run and Richie's patch diggings have paid, so far, remarkably well. The Richie patch is located on the west side of the park at the base of the mountains. This mine has been, and is yet, extraordinarily productive. Hundreds of nuggets have been picked up in the pit that weighed from two to sixty dollars, of wire gold, and of great fineness. The diggings are shallow; the bed rock lying from two to five feet below the surface. These diggings are located on the level park. Arkansas Gulch is the first above Cash Creek Gulch, and a fourth of a mile distant. Gibson Gulch, just above Arkansas, has yielded handsomely under the management of the Hon. J. G. Ehrheart, Daniel Houghton and John Weldon. This gulch is undoubtedly rich, yielding from five to fifteen cents on the pan. Yuba Gulch, first above Gibson, bids fair to pay well when properly worked. It prospects well and needs development only to prove its value. Long's Gulch, just above Yuba, prospects fairly with the pan. It is a very long gulch and will be easy to work, for the reason that any amount of water can be brought to it at small expense. These mines are entirely surrounded by the finest of timber. .....The Central City *Register*, Jan. 15th, contains the following: The shipment of gold for the week ending Tuesday, Jan. 8th, was as follows: R. M. National Bank 559 ounces. Geo. T. Clark & Co., 354. Warren Hussey & Co. 266. Total, 1,179 ounces, valued at $20,000 .....The Smith & Parmelee company took out one hundred and forty-six ounces of gold last week from a four days' run. The Black Hawk company took out one hundred and ninety-three ounces also, on short time .....The mill belonging to the Gunnell company, on the Nevada road, has been thoroughly repaired, and is now running. The mill contains eighteen stamps .....The Gunnell company took out one hundred and six ounces of gold last week, on short time. More stamps are being run this week. .....Mr. Dubois is taking the shaking tables out of his mill and putting in dolly tubs. He will be ready to run again in two or three days ..... The Ophir company have been shut down for the past week on account of a defect in one of their boilers. They will start their stamps again on Monday .....Mr. Walters, who built the terrace furnace for Messrs. Lyon & Co., will begin the erection of one for Bay State company in a few days .....Mr. Kenyon, of the Kenyon company, is expected to return next week. He will begin work at once .....The Sterling company's mill, in Chase Gulch, is running on second quality ore from No. 3, Bobtail. The average of the run is now $150. .....Mr. Aldrich has started the University company's mill on North Clear Creek. He is now running on wall rock and tailing, but will be ready to run custom ores on Monday .....Speaking of Wetherbee's "Crosby & Thompson Desulphurizer," the same paper says: All we have to say is, that of the large number of practical tests made in Colorado, not one of his desulphurizers has succeeded or are now in use. The thing is worthless and useless. It will save no gold at all . A Central City correspondent of the Denver *Gazette* writes: Our mining affairs improve marvelously, regardless of all difficulties, and it is safe to say we are now out of the woods, never again to enter their dark interstices. The Briggs mine is now among the prosperous ones, sending its full amount of treasure each week, as also the Gregory Consolidated. A short visit to Georgetown amply repaid me for the fatigue of the trip. Our friends in that high up portion of the world are equally in earnest, and the recent rich discoveries around Elizabethtown have given a sudden impetus to prospecting well calculated to aid in exhuming the secreted treasures buried by a few feet of debris. The Anglo-Saxon, according to some opinions, is already eclipsed, though the ore from none of the late discoveries can, by assay, come within a hold thousand of it per ton, yet, there are many lodes close by that surpass it in extent, and will, no doubt, in time, with development, equal it in richness.....The long deferred hopes of the Sierra Madre company seem about to be realized, and the indications are, that the cap through which they have been working will soon give place to a fine quality of iron and galena ore. The specimens which we saw yesterday, promise this result.

California.

El Dorado.—We learn that the Church Union Gold Company, of El Dorado County, California, have recently purchased the extension of the Union Lode, 6,000 feet in length. In prospecting on this property recently mined by the Central Mining company, they discovered some very rich outcroppings, which, upon examination, have proved to be as rich and extensive as the property they now own.....The Placerville *Herald* says: The Woodside mine, at Georgetown, still continues rich. On Wednesday last there was pounded in a mortar, a candle box full of quartz, which yielded $3,000. Mr. Treadwell, of Ophir, who was present, brought over here, the same day, some very fine specimens from the mine. The vein is located entirely in slate, which is very seamy.

Nevada.—The *Gazette* says: The Rocky Bar company, whose claims are now situated near Washington, are now taking out gold in large quantities. The yield of their claims week before last was over eighty ounces, and of this about thirty ounces was taken from one pan of gravel.....The *Transcript* says: On the Blue lead the Gouge Eye is running night and day, and cleaning up about $2,000 per week. Williams & Riggs are running both their mills on good dirt.....The mines on the ridge above San Juan are yielding largely this season. At Badger Hill the English company have constructed a large amount of flumming. They have taken out a very large amount of money from the cement bed on which they are now working. At Columbia Hill, the companies working are taking out good pay.....The *Union* says: The Eureka mine, since it became the property of its present owners, about one year ago, has paid a monthly dividend of from $20,000 to $50,000. Fourteen mining companies, ten of which work their own mills, are now working extensive mines profitably.

Mariposa.—The *Gazette*, Dec. 15th, says: Douglass and Barrett at Gimisal, are working on their pocket vein with favorable prospects Carson & Co. are not doing anything just now, but will commence soon. At the Pott's mine, one hundred and twenty-six ounces of amalgam were the result of two week's run. The Lafayette company is now in active operation, and taking out some excellent rock. There is a four-stamp mill near the mine.....Coulterville correspondence says: Messrs. McKee & Flannigan are finding richer ore than ever. They beat out in a small mortar over 100 pounds of gold on Friday evening last .....At Marble Springs appearances are indicative of splendid results.....Dr. McLean, Chamberlain, and Douglas' & Co., are going on well, and are said to have good work in sight.

Amador.—The *Ledger* says: The Pioneer is now yielding more bountifully than at any former period. The deeper they go the richer the rock becomes—in fact, the mine seems to be running into a mass of valuable sulphurets.....Workmen are busy at the Kearsing mill, putting up Ambler's sulphuret machinery. It will take a few weeks yet to complete the job, and then they will commence working rock from the Coney & Bigelow mine. At present the mill is crushing rock from the old Moore mine.

Calaveras.—The *Register*, Dec. 15th, says: The late rains have caused a stir among the miners. Yesterday we noticed several at work in the gulches, and we hope, ere many days have passed, to have the pleasure of making known in the world some "big strike." .....Dutch Flat correspondence in the same paper says: Times are extremely exciting in consequence of new and rich discoveries in Warren's ranche, of placer diggings. They have found extensive diluvial deposits on the higher ridges in that vicinity; in fact, the prospects are equal to that of '49. F. Treat & Co. are extending their Table Mountain ditch to the new discoveries.

Sierra.—The *Mountain Messenger* says: At Howland Flat the diggings are paying remarkably well, all working a large force of men. The Union company employ eighty. This company have a superior double track and tunnel two thousand feet in length, the best incline, four hundred feet in length, the most extensive gravel claims in California.....At Gibsonsonville, many of the miners are idle for the want of water, the yards and dump sheds being already full. .....At Port Wine mining prospects are improving. Eagle company lately cleaned up for two week's work sixty-three ounces of gold. The Erie boys are getting ready, and anticipate doing better than ever, and the Monte Cristo still continues paying the usual revenue.

Inyo.—Correspondence of the *Alta* from Camp Independence, says: The Chrysopolis mill has finally been completed, and is now in fine running order. This is a twenty-stamp mill put up by a New York company at an expense of one hundred thousand dollars. At the Stephenson mine very excellent ore has been struck, at a depth of one hundred and thirty feet. Some of this ore assays nine hundred dollars to the ton. The Kearsarge mine is also improving as they go down. Silver Sprent is also coming out fine, and will, no doubt, prove a valuable mine.

Yuba.—A letter from Paulinville to the Marysville *Appeal*, Dec. 13th, says: The Mary Ann is now being opened and the rock prospects at least $100 a ton. The ledge is about two feet wide at the top, and at thirty-seven feet it has increased to three feet. The greater portion of the rock is decomposed—it all pays.

Montana.

The Virginia City *Democrat*, Jan. 3d, says: Accounts from Highland Gulch continue to be encouraging. Most of the claims that are opened are paying largely. It is generally conceded that next summer it will rank as one of the most lively camps in the Territory.....The *Post*, Jan. 5th, contains the following: At Highland Gulch the miners are chiefly engaged in erecting and repairing houses, and the streets are piled full of lumber. Of this they have an abundance, and of very fine quality, at their doors. There are some thirty or forty claims being worked by drifting, and competent judges estimate the weekly proceeds of these at $30,000. The numerous gulches in the vicinity will be prospected as soon as the spring opens, and we expect to hear of rich discoveries. There is about four feet of snow on the range this side, and travelling is difficult. Flour ranges from $1 $16 per hundred, and hay retails at the rate of $200 per ton ... The latest news from Salmon river confirm the previous reports as to its richness and extent. Some forty gulches have been discovered, and the miners are only awaiting the return of spring to prosecute their development. Parties who have gone over from this place, write back to their friends to stay here during the winter, as nothing is being, or can be, done at present, but encourage them to come in the

spring. Flour is worth $23 per hundred in the mines .....Claims in Lost Horse gulch, for the amount of work done on them, are turning out exceedingly well, and all holders of ground are confident of having a good thing. We saw a prospect from two pans of dirt out of Perry & Co.'s claim which weighed $9 50. The gold was coarse and much resembled that from Summit district in Alder Gulch. Quartz of surpassing richness is found in the surrounding hills. Two lodes were recently discovered which prospects equal to anything in the Territory.....We erred somewhat in giving the returns of the last clean-up from Judge Turnley's mill. The net amount will be $8,820,85, for one week's run, during which the mill crushed some eighty-five tons of rock.....From Mr. Hall, of Sterling, we learn the following: Cope's mill is in operation and crushing ore from the Galena mine, which they have leased.....Mr. Atkin, of the Golden Ore mining company, is putting up a twelve-stamp Henry mill on the Meadow Creek belt.....The machinery of the Clark and Upson mill has not realized the expectations of the proprietors, and the senior partner has started for California to procure a better kind.....Mr. Hyde will alao have a mill on his leads next summer.....Prof. Ward is developing the leads of the California company, which he represents, and an eighty-stamp mill will be brought out here as soon as spring opens. Thirty hands are now employed in sinking on their leads .....Some Mexicans who were prospecting near the Hot Springs district, six miles east of Sterling, discovered a lead a few days since, which prospects well. The quartz is decayed, and from one pan of surface matter they washed out $6.25.

Oregon.

A correspondent at Ellensburg writes to the Jacksonville *Sentinel*: Do you know that in this neighborhood there are good diggings that pay $50 per day to the hand? At Randolph, at the mouth of the Coquette river, they have discovered the old ocean beach (old as Solomon, probably,) some hundred feet above the beach of the present day, and about three miles inland. At Randolph the beach diggings of early days were very rich – $1,000 per day being made—no doubt fed by this older beach now found. At this place (the mouth of Rogue river,) formerly known as Gold Beach, beach mining continues to the present day, and in one locality part of an old ocean beach can be distinctly seen, with its shells, drift timber, &c., and black sand. The latter was first worked about a year ago, providing good four dollar a day diggings, and this was the hint for finding the same at Randolph. It is most likely that the "streak" at Randolph is much older than the one at Gold Beach, as the latter is only about eighty feet above the present beach, and the sand is not so plentiful nor so rich, and it is probably the second beach. We look for rich discoveries next summer. In prospecting for that "streak" at Randolph, they intend boring, as it is covered with thirty feet of earth, and highly set with timber. A creek cut through and exposed it.....The *Oregonian*, Dec. 1st, says: Messrs. Shriver and Crandall who are just down from Eagle Creek represent the mining prospects of that district as good and growing better. The miners have come to feeling very secure in both the richness and permanence of the yield from the quartz ledges. The "Golden Eagle," at Hog'em, is paying $32 in gold to the ton. The La Grande company has had a mill in operation for ten days previous to the 17th inst., crushing rock from the "Gem of the Mountain." They had had no clean-up, but they confidently expect not less than $40 per ton. The "Badger" lode—a late discovery—prospects some $2,809 of gold per ton with some silver.....The same paper, Dec. 8th, says: Mr. Myers, of La Grande, showed us, yesterday, two bricks of gold amalgam from the mill of the La Grande Gold and Silver Mining company, a portion of the yield of seven tons of rock from the Gem of the Mountain ledge, in Eagle Creek district. The following is the result of an assay by King, Merrick & Co., of this city: Weight before melting, 16.84 ounces; weight after melting, 13.60 ounces; fineness, 664; value, $186.67. This loss from purging the amalgam of metallic impurities arose partly from the fact that the rock crushed consisted in considerable portion of bed and casing rock. The assay demonstrates the yield to be about $40 to the ton. The ledge constantly improves in width and general appearance as the depth of working is increased.

New Hampshire.

A Concord correspondent of the Boston *Journal* writes: In Lisbon and vicinity four mining companies, with a reported aggregate capital of nearly a million of dollars, are already under way. They have largely increased the business of that town, which is fast becoming a very active and thriving place. The Lisbon company started first, we believe, and is now in complete operation. Their new mill at Lisbon is running with one set of "stamps." When filled with machinery, as is now contemplated, the mill and water privilege will stand the company nearly fifty thousand dollars. The ore from the "Dodge Mine" is now being worked up. This is a new mine, some three miles from the mill, whose surface ores are yielding six dollars and a half of gold to the ton, which is supposed to indicate great riches "down below." The quartz rock containing the valuable metal is drilled and blasted out with powder, hauled to the mill on sleds, put through the crushing and sifting machinery, and finally in the assay office in the upper portion of the building there come forth the bars of "shining gold." The business of this company is superintended by Colonel Farnham, a gentleman of large experience in Colorado mining.

Michigan.

The Keweenaw *Times* says: Very considerable quantities of native silver have been found in the copper washed from the stamp stuff of the Shelden Columbian mine Several pieces we have seen were worth from one to three or four dollars each, but the greater portion is in much smaller pieces.

Vermont.

It is stated that from four to six mills will probably be put up next season at Bridgewater, Vt., for reducing the quartz of that region, and that a yield of from $15 to $30 per ton is expected. Work has been going on constantly during the past season, and four or five new and promising openings have been made.

Canada.

A correspondent writes from Belleville, Canada West, Jan. 22d.: We are having a little gold excitement in the section of Canada known as the Bay of Quinte district. This new El Dorado is situate in the township of Madoc, county of Hastings, C.W., fifty miles from Kingston and immediately in the vicinity of the Marmora iron-bed, recently purchased for $200,000 by a Pittsburgh, Pa., company of iron smelters, with a view to its early operation. The facts in regard to this gold mine are as follows: About nine months ago, two farmers named Powell, under the impression that a bed of copper ore was to be found on a farm belonging to a man named Richardson, in the township indicated above, commenced the work of excavation, and after they had gone down some half dozen feet they found what they conceived to be gold liberally diffused through a coarse sand. They secured a quantity of this mixture and brought it to the frontier town, Belleville, where they exhibited it, but received no encouragement. Six months later the same persons procured other specimens and sent it to town, and this time it fell into the hands of a man named Carr, from Boston, who happened to be in the vicinity boring for coal oil. Carr at once gave the matter serious consideration, and on a visit to the spot secured further evidence of the extraordinary richness of the deposit, and made arrangements for its purchase for $35,000 in gold, the money to be paid on the 10th of December last. A bond was taken by Carr from the owners, stipulating for a deed of fifteen acres at the time agreed upon, and the excavation was at once secured from predatory designs by means of an inclosure and an armed guard. It then became known that gold in considerable richness had been found in this shaft, not only in coarse sand, but in decayed quartz, and also in a cream-colored quartz that abounded in a crevice and its surroundings, and specimens were soon widely scattered over the country, producing an immense excitement. Companies were formed and parties of discovery were sent out in every direction, the chief aim being to secure mineral leases of farmers' lands, with a view to speculation. The country was fairly run over with gold seekers, and ere the 10th of December arrived, nearly all the land in the township of Madoc and large quantities in the adjoining townships of the east and west were already under lease, and rumors of new discoveries were abundant. The attention of the Canadian Government was also attracted by the discovery, and a gold inspector was at once appointed, and the price of Crown lands in the neighborhood increased one half. Geologists partook of the mania as well, and Sir William Logan dispatched two of his staff to report. The 10th of December arrived, and with it came the representatives of the Boston Company, but without sufficient money to make good the purchase. They asked further time, and offered to deposit a small sum to be forfeited at the expiration of which, should they again fail to connect. But no arrangement was effected, and Richardson sold under protest from the first purchasers to a local company, whose chances lay in their ability to secure an outside customer; and in this they were finally successful. Mr. Lombard, of Chicago, became the purchaser for $35,000 cash, providing the title could be made good as against the Boston men, who claim their right to redeem in any reasonable time. This bargain was consummated on Monday last, 21st inst., and the mine or shaft has been filled with timbers to secure it against theft until the chancery suit now pending is decided. Mr. Michel, who was sent by Sir William Logan especially to report upon the gold region of North Hastings, has written a letter to *L'Ordre* of Montreal, in which he says that the Richardson mine "is as remarkable for its richness as for the manner of its existence," and that "he sees in the Richardson mine the best as well as the most encouraging of all indications for the search of gold in Upper Canada, because he don't suppose that this deposit, which characterizes this region so favorabiy, can be the only one that exists in the locality." Of course Mr. Michel is not very communicative, because his report is designed for the Government and not for the public ear, but what he has expressed is most favorable in regard to the gold-bearing indications of this region. Mr. Lombard says of the richness of the deposit that it excels in richness anything that has ever come under his notice, and he is now the manager of a mine in Nevada, and is said to have had extensive experience in gold-bearing countries elsewhere. Some thousands of dollars of native gold have already been secured from this mine and other places in the vicinity, and sold in this town to jewellers, who pronounce it a very good quality—fully equal to that of Australia. Anticipations in this section run high for the spring opening. The country abounds in quartz, as well as in large deposits of copper, iron, lead, slate, marble and other valuable metals and substances, and the attention of foreigners has been given to these as well as to the search for gold.....From the Kingston *News*, Jan. 27th, we take the following: A letter from a Mr. A. Michel, the well known mining engineer, attached to the Canada Geological commission, appears in a French contemporary, in the course of which he says, referring to the Hastings gold region and the Richardson mine, "Although I was not permitted to make, in that excavation (the Richardson mine) the works required for a thorough investigation of the discovery, I saw enough and essayed a sufficient quantity of earthy matter and rock which I took from the pit, to be persuaded of the existence on lot 18, of the 5th range, of the township of Madoc, of an auriferous deposit as extraordinary for its wealth as for the conditions of its existence. I also assured myself that there are traces of gold in the ferruginous soil and in the quartz of several other localities of the same township and the township of Elgin. I therefore believe that the explorations, which will probably be made on a large scale in the county of Hastings as soon as favorable weather sets in, will result in some interesting discoveries." Mr. Michel also thus refers to the Chaudiere gold region in Lower Canada: "In reply to a question which has been put me by several persons, I may say that no possible comparison can as yet be made between this newly discovered auriferous region (the Hastings) and those of the Chaudiere and the Saint Francis. The existence of gold in Lower Canada has been established over an immense superficial region by a greater number of explorations, and better still by several fruitful enterprises. A large quantity of gold has already been taken from the alluvium of the Chaudiere and its tributaries, and especially from the river Gilbert—a quantity which may be estimated by several hundred thousand dollars; and this very day I learn by a letter from the mining inspectors for the district of Chaudiere, addressed to Sir William Logan, that a nugget of gold, with quartz adhering, weighing forty ounces, and valued, consequently, at seven hundred dollars, was found at the latter end of December, at a depth of thirty-three feet on lot No. 66, of the concession de Lery in the Seigniory of Rigaud-Vaudreuil. Another nugget, of the weight of eight ounces, was found a few days previously in the same place. I was called upon to examine a very rich and extensive alluvial deposit of gold, about two months ago in the St. Francis region, in the township of Ditton, and I know from a good source that during the course of last year, important discoveries were also made in the vicinity of Lake Megantic. We must, therefore, await the result of further explorations in the Hastings regions, ere we can institute a comparison between it and the other auriferous regions of the Canadas. * * * I see in the Richardson mine the best as well as the most encouraging of all indications for the prospecting of gold in Upper Canada, because I do not believe that that deposit which very favorably characterizes the region is the only one that therein exists."

British Columbia.

A telegram in the *British Colonist*, dated Dec. 4th, from William Creek, says: The Cameron company began to work below last week. The Raby, Dead Broke, Forest Rose, Last Chance, and Moffat companies are all preparing to work under ground. Those winter claims that cannot wash under ground have been most diligent in preparing for the severe weather by burying their flumes and making their shaft-houses as warm as possible. The enlarging of the Bed-Rock Drain will be finished this week. The Adams company are getting into good pay, and are well prepared to work all winter. The Caledonia company is paying well. The Never Sweat company is paying about expenses. The Borealis is said to be paying very well. The Morning Star making wages. A great deal of labor has been lost on the Bed-Rock Drain. The workmen have had to return to the Cariboo company's ground, and run in another direction to avoid a bed of slum in which they ran the other drift. The Six-toed Pete, Stedman, Bailey, Dutch Bill, Well, Brouse, Mary Ann, Casket, Taylor, Wide West, and Bradley. Nicholson Co.'s are all taking out over wages, and will work during the winter.....Conklin's Gulch on which is located the Aurora, Sawmill and Ericsson claims, and from a few hundred feet of which nearly one million of dollars were taken, has always been a mystery to miners, but the increasing yield of the United company, as the pay runs, is likely to become an index to the source of this rich deposit. The United company for the week ending Nov. 17, was 250 ounces; for last week 305 ounces..... Stout's Gulch has paid, on an average, over $100 per

foot as far as it has been worked. It is expected that more gold will be taken out this winter than has been taken out any past season. The High-Low-Jack are making expenses; this claim has paid over $12,000 to the share. The Floyd and Pioneer companies, amalgamated, are taking out good pay. The Alturas company washed up 127 ounces out of about twenty feet square. They are running a tunnel from which to work during the winter. Taffvale are waiting for drainage through the Alturas' tunnel. Jenkins are making $40 a day to the hand.

COPPER.

Idaho.

A Lewiston correspondent of the Idaho *Statesman*, says: "I can point to many men who left good mines in Warren's, Florence, Elk City and Oro Fino, and others who had established a promising business, but are now penniless, following visionary fortunes in other portions of the territory; while we can scarcely point to an individual that stuck to his mine or remained at his post of business that is not now in pretty favorable circumstances. Warren's camp has been improving every year, and this year the placer mines have yielded much larger than any previous year. Florence has done as well as any year except the first. In this camp they have a short season for water, and during that time hands were scarce. In Elk City the mines were flooded with water all the fore part of the summer, and they have made only an average yield. In Oro Fino the China men have nearly monopolized the camp. Between seven and eight hundred have worked there with good returns all summer, and as many can continue to work there for twenty years to come with like profits. On Salmon and Snake rivers we have extensive bars that have been sufficiently prospected to form a pretty certain opinion of their extent. Some miners have worked on these bars all summer, and many more will work them this winter. They generally work them with a rocker, and they pay from four to five dollars per day. There have been but trifling expenditures made to bring water on these bars, and of course they have produced but little gold. Many of the bars have been sufficiently prospected to prove their richness, and several extensive ditches are being dug this winter, and we may hereafter expect from this portion of our Territory a large yield of gold. It is safe to state that Salmon river alone will furnish remunerative labor for one thousand miners for ten or twelve years to come." ..... *Per contra* a correspondent of the Lake Superior *Miner* writes from Rocky Bar, Idaho, Nov 26th, as follows: These gold regions are all very dull, not one of them having come up to the representations. Business has fallen off, and the sheriff is the only man that finds employment. The idea of gold and silver mining is always pleasing, and people rush after such a mine with avidity, not stopping to look into the expense, character of veins, or any of the elements of business. I see the newspaper correspondents give the product of this Territory as $17,000,000 Now this is all bosh, or worse, lying; you can safely substract 12 from 17, and then have much more than is actually produced. It is conceded that Colorado, Nevada, Idaho and Montana have not near as much population as they had one year ago. In Idaho, empty houses exist in plenty all over the Territory, and nearly all the merchants that go on have been obliged to get extension, and a large majority of the old merchants have failed outright. Nearly every mine and milling company are in the sheriff's hands, and the remainder suspended. Money cannot be had here. I am with one of the two mines that have not been protested, and have not yet succeeded in borrowing money enough to pay my taxes, fifty dollars in a place is a decided haul. The people are all leaving, that can get away either by money or jaw bone, *i. e.* brass. I have seen trains leave that there was not money enough in the party to pay toll at the ferries. A change in the population would benefit the country. The mineral resources are very great and valuable, but to develop them requires time, money, and an industrious people, with a supply of ordinary honesty in the managers of the company. In these requisites up to this time, the Territory has failed. The reputation of the Territory is so poor that the acts passed in the last assembly are locked up in the printer's warehouse, because he would not deliver unless paid. This country is in the same state in regard to a part of their records. A nice state for a country yielding $17,000,000.

Michigan.

The Auditor General of this State, in his annual report dated Nov. 30th, 1866, gives the following as the copper products of Michigan mining companies for the fiscal year:

	Tons.	Lbs.
Adventure	3	1,491
Etna	2	151
Albany and Boston	159	169
Amygdaloid	209	964
Arcadian	2	1,846
Bohemian	34	1,823
Central	574	1,842
Delaware	51	492
Evergreen	187	1,213
Flint Steel River	108	959
Garden City	5	1,397
Grand Portage	486	666
Hilton	3	411
Indiana	2	1,700
Isle Royale	394	485
Knowlton	98	724
Lake Superior	....	1,951
Madison	7	881
Minnesota	201	1,000
Ogima	138	1,309
Pennsylvania	182	1,357
Phenix	101	....
Quincy	923	1,500
Ridge	85	433
Rockland	108	1,500
South Pewabic	6	1,475
Superior	44	500
Toltec	6	668
Vulcan	....	613
Total	4,122	1,491

The following is a table of the shipments of copper from the ports of Keweenaw county during the season of 1866: From Eagle river—Cliff mine, 1,222 tons 686 lbs.; Bay State, 143 tons 1,470 lbs.; Phœnix, 101 tons 1,999 lbs.; St. Clair, 51 tons 743 lbs.; Golden City, 5 tons 553 lbs.; total, 1,524 tons 1,461 lbs. From Eagle Harbor—Central mine, 875 tons 1,542 lbs.; Copper Falls, 871 tons 119 lbs.; Amygdaloid, 241 tons 1,479 lbs.; Madison, 24 tons 581 lbs.; Pennsylvania, tribute, 1 ton 214 lbs.; Bay State, 1 ton 1,765 lbs.; total, 1,925 tons 826 lbs. From Lac la Belle—Pennsylvania and Delaware ingots, 123 tons. From Copper Harbor—Ætna mine, 8 tons 574 lbs.; Resolute, 1 ton 573 lbs.; Clark, 1 ton 3 lbs.; Hanover, 202 lbs.; total, 50 tons 1,702 lbs.; total shipments from the district for the year, 3,023 tons 691 lbs.; increase over last year, 389 tons .....From the Houghton *Mining Gazette*, Jan. 19th, we condense the following: The Franklin workings are at present in poor ground, but the prospects for the ensuing year are very good. The Franklin will produce as much copper in 1867 as it did in 1866. It will be able to do this because of the very large amount of ground opened, and large quantity of rock broken and lying on the stull in the mine. It must be also borne in mind that the present appearance, which we have designated as poorness, is only a decrease of the usual quantity of coarse copper, the stamp work being as good and more abundant than ever, and having a good stamp mill, there will not be any trouble in its being furnished and stamping five thousand or more tons a month, so that the monthly products will not vary much from ninety tons. The present working force of Franklin is officers and clerks, 4; miners, 170; laborers, 76; surface hands, 98; stamps, 54—total, 402.

Oregon.

At Eagle Creek, says the *Oregonian*, Dec. 8th: The Pioneer Copper and Silver Mining company have sunk an incline in the Shriver lode—copper—to the depth of 75 feet. The rock from this mine prospects 75 per cent. of copper. It has a stratum of rock which prospects $25 of gold, $9 of silver, and a large per cent. of copper. There are several strata in this lode, nearly all of which show more or less of native copper. The discoveries which have been made during this last season, of copper, silver and gold-bearing ledges of quartz, have created a strong confidence in the district, and capital is beginning to offer freely enough to insure a thorough test during the next season. The Pioneer company will erect smelting works on the Shriver lode in the spring.

New Hampshire.

A correspondent writes: In the town of Lyman, which joins Lisbon on the west, there is a new mining enterprise under way, said to be for getting copper. Large tracts of land are being bonded and operations will very likely commence next spring. "Something rich" is expected.

LEAD.

Michigan.

The Marquette *Journal* says: Comparatively little has been done during the past year in the exploration and development of the silver lead (argentiferous galena) district of our county. But two of the many companies that were organized three years ago have ever undertaken mining operations. These are the Lake Superior Silver Lead Company, and Holyoke Mining Company. The former of these has ceased mining for the winter, but will probably begin again in the spring. The Holyoke Company is at work with a moderate force, and intends to persevere. Their main adit is driven in about 420 feet, and to within about 140 feet of cutting the main vein, which it does at a depth of 150 feet from the outcrop on the hill above. The appearance of the mine is encouraging, and there is a good probability that it will become self-sustaining and remunerative after the introduction of proper mining machinery. When it is once settled that we can make a silver lead mine *pay*, we have a world of untouched wealth in our county.

New Hampshire.

The very latest excitement, says a correspondent, is in the town of Rumney, which is on the Montreal Railroad, about twenty-five miles south of Lisbon on an air line. Very valuable mines are reported to have been discovered there. They are to be worked principally for lead and silver. The "lead," as it is termed, was first recognized in a brook near Stinson's Pond, in the northern part of the town, and about six miles from the railroad station. It has been traced several miles north into the town of Ellsworth. Over a thousand acres have been bonded, and the opening of the mine and the erection of a smelting mill are contemplated in the spring. One ton of the ore was recently taken away and smelted, yielding a very handsome amount of lead and silver together, with about five dollars' worth of gold. Several Boston men are among those engaged in this enterprise.

IRON.

Michigan.

From the Marquette *Mining Journal*, Jan. 19th, we condense the following review of the iron product of Marquette County during the year 1866: The Jackson mine has fully sustained its established reputation. It closes the year with a larger product than ever before, and a decided improvement in the appearance of the mine. The new shafts and openings promise well for a continued large product, and the working of the machinery and improvements introduced, within the last two years, is entirely satisfactory. The product of this mine for 1866 was 85,503 gross tons. About 150 men will be employed at the mine this winter..... The Cleveland mine shows a very marked improvement during the year; the result of the labor expended upon the new openings and the enlargement of the old ones is now beginning to appear. The pumping and hoisting machinery which the Company have procured is now in position, and a large amount of ore is uncovered for next season's operations. The product for 1866 was 43,157 tons. This winter 125 will work at the mine..... The Marquette mine keeps up a steady product and looks well for the future. Its product for the year, by lake from Marquette, was 7,910 gross tons..... The Lake Superior mine has also been greatly improved during the past year, and makes an excellent showing for future production. Its lower adit has been extended 250 feet, and a large amount of work done towards developing new openings. The bed of hematite discovered last year on the south side of the old mine proves to be of great extent and excellent quality, and a new mine of specular ore has been opened on the south-east quarter of section 16. One hundred and thirty men are employed this winter. The product of the past season was 68,002 gross tons..... The Pittsburgh and Lake Angeline Iron Co. have enlarged their borders, and are now working under a permanent lease the tract formerly known as "the Edwards mine," in town 47, range 29, as well as their old mine on Lake Angeline. A force of about one hundred men will be employed by this company this winter. At both mines they have fine prospects, and will be prepared next season to exceed the product of this. Their product for the past year was 26,858 gross tons..... The New York mine has been largely developed during the past year, and has now exposed a heavy body of ore, giving promise of an increased production next year. This is a comparatively young mine, operations having been only commenced there in 1865. In view of the brief period of its development, its present production and appearance are quite remarkable. About seventy-five men are employed there this winter. The product of the past season is 35,280 gross tons..... The Washington mine, with its adjoining neighbor, the "Edwards," is the only ore deposit now worked outside of T. 47, R. 27, in which all the old mines are situated. The Washington Co.'s tract is in the eastern part of T. 47, R. 29. It contains a considerable number of magnetic ore deposits of large extent, from one of which the shipments of the Company have this year been principally made. A new opening has been recently made upon a deposit half a mile east of the old mine, where the ore is found in a large body and entirely free from rock. This is one of the most promising openings which have been made in this country and, will afford a large amount of good ore. About sixty men are employed there this winter. The product of this Company for the past year has been 15 150 gross tons..... The Iron Mountain Mining Company have a cold-short ore which it is believed will possess very advantageous properties as a mixture to neutralize the other ores of this region. The deposit is a large one easily and cheaply mined. The product of the past year is 6 800 tons..... The Iron Cliffs Company have during the past season carried on explorations upon their large estate of 50,000 acres, and have made some experimental shipments of the ores from the Ogden and Tilden Mines. They have also leased and are now running the Pioneer Furnaces at Negaunee. We understand that they propose to put both stacks in blast presently, and to keep them both in full operation..... The Pioneer, Collins, Bancroft, Northern, Morgan and Greenwood Furnaces are all now running, and have done a successful business in the past year..... The Michigan Iron Company have just

completed their furnace near the Escanaba River, in T. 47, R. 28, and are ready and fully equipped to blast. They have a fine timbered location, with a bed of ore owned by the Company about a mile south of the Furnace .....The Champion Furnace is a new one, building by the Morgan Iron Company, about 4 miles beyond the Washington Mine, on the line of the Marquette and Ontonagon R. R .... The Lake Superior and Pacific Rolling Mill Company have organized, and propose to put up a blast furnace and a rolling mill in the village of Marquette next season.

An exchange says: "A recent article in the *Scientific American* professes to find the cause of the frequent breaking of the shafts and cranks of ocean steamers to the fact that they are generally made of scrap iron. The article concludes as follows: 'From the examination we have given this subject, we are of the opinion that the only reliable and safe course for for our forge-masters to pursue, is to make their forgings of one kind of iron. Let them test the various brands of foreign and American irons, and use only the strongest and most tenacious that can be procured; and we feel confident that we shall hear no more of broken steamer shafts, endangering a loss of life and property.' A Western exchange, in noticing this article, claims for the Lake Superior iron the superiority—evil to him who evilly thinks this a pun—over all other brands in strength and tenacity. It says: 'We have seen with our own eyes an inch square bar of Lake Superior iron bent double and hammered down at the bend when perfectly cold, without even presenting a fibrous or abraded appearance, but drawing perfectly smooth and as bright as polished tin over the curve. We have also seen an inch-and-ahalf round bar, having a solid head forged on each end, drawn out by tractile force like a stick of soft wax, until it was about one inch in diameter in the centre, without a sign of parting, or the tearing of any fibres, or the appearance known as 'broomming;' but the portion drawn out remained smooth and became bright as a mirror.' The common impression that this iron is too soft for use as shafting, we are assured, is quite unfounded. Though tenacious and ductile, it is not extremely flexible, and can be tempered to a great rigidity. The subject is certainly worth the attention of forge-masters, and scientific men generally will be interested in its discussion."

Missouri.

A correspondent of the Philadelphia *Press* writes from St. Louis a long account of what he has seen at Iron Mountain and Pilot Knob, from which we extract as follows: So this is Iron Mountain. Some people are disappointed when they see it. But I assure you, reader, that Iron Mountain is a big thing. There you see over five hundred acres of a single mass of solid iron—hardly an ore. A piece of it like cast-iron to look at, and apparently as heavy. Listen to my friend: "The road over which we walked was iron; the loose pebbles with which the surface of the mountain is plentifully covered, are all iron. A light soil, bearing some trees and bushes, covers the hill. But in many places enormous moss-covered blocks of ore jut above the surface. In one of the mines in which the men were working, we saw a solid and almost perpendicular face of ore sixty feet high." Spenser, I think, has the strange picture of an enchanted cavern all of solid iron, with iron rocks and hollows, and the Norse mythology has a road of iron, and both are paralleled here in Missouri. Here in the furnace, red hot streams of melting dross ran by—and around the two ladies who had come, with Y. and Dot and myself, to view the wonders, reminding one of the molten rivers of the classic Hades, and the intensely lighting lava flood which I have seen pouring down Vesuvius. Sometimes a long-unthought-of impression, as it really was (not as we imperfectly remember and half-create it), will flash up strangely and almost terribly out of the past. And so, as that fiery dross burst up and ran past, there came back to me a sunny morning long years ago, on the summit of the volcano of Naples, when I stood among iron-looking lava and buried my staff in the liquid fire. The scoria or slag of this furnace is a singular, light-grey refuse, very much resembling in color a certain slimy scum which housewives remove from quinces or some such fruit when preserving. The workmen dipped it up for us, when it granulated of itself, apparently, into large balls of any size, which in an instant cooled and might be taken in the hand.....So on we came to Pilot Knob. This, too, is an iron mountain, but covered with strange broken crags and wild rocks, crusted together like towers, castles and antique tombs, which had been three-quarters melted at doomsday, and then suddenly cooled. It is a grand and strange hill, rising steeply for nearly six hundred feet; alone in a beautiful country, a quiet, fertile valley sweeping around like the deep groove which you find in mossy Etruscan brooches—Pilot Knob being the central boss, and a far range of mountains which surround the valley rising like the outer protecting ridge or ring. As we looked far away on stream and forest—now brown with dead leaves or bare—on farm-house and forge, the view was one of surpassing loveliness. In this tranquil lowland lie two villages, and far beyond rises Shepherd monntain, which is a still larger pile of iron ore.

Pennsylvania.

From the Pottsville *Standard* we take the following: A cubic yard of the McGinnes Black Band will yield about three tons of *ore*, which will make in the furnace a little over a ton of metallic iron..... The search for black-band iron ore, throughout the entire coal region of this county, still continues. A vein of black-band ore, supposed to be the McGinnes vein, has been opened near Silver Creek, about four miles from the shaft of Jr. McGinnes. Other specimens of ores, some of them of great value, were found near the same place. As the parties making the discovery do not wish to sacrifice their personal interests for the public curiosity, we refrain from mentioning names or locations at present. We have positive information that the genuine black band ore has been found in many places in this county, and in great quantity. Valuable hematite and other ores have also been discovered, and will soon be developed. Measures have been taken for the erection of furnaces for the manufacture of the hematites, at places in this county not yet made public. There is a great demand for the ore from the McGinnes vein, especially amongst iron masters in other counties; but comparatively little has as yet been exported, as it is the intention of our leading iron men to have it manufactured here. If it will pay iron masters at a distance to transport both the ore and the coal for its manufacture a distance of fifty or one hundred miles, it will certainly pay our iron masters here to manufacture it in furnaces within sight of the coal veins, or sometimes even standing immediately above them. .....Correspondents of the *Standard* severely, and perhaps justly, ridicule S. H. Daddon's preposterous pretensions and those of the so-called Pottsville *Miners' Journal*, with regard to the location of Black Band deposits. One of them places the Black Band "down among the Diamonds—there being *five above and two below* the great Black Band of Iron orestruck in the Mill Creek shaft on the land of the Mammoth Vein Coal Company, a tract of land containing about 1,100 acres, all of which is underlaid with three feet of black band." It is stated that all the mills in the Lehigh Valley have closed.

Virginia.

The Cambria Company (of Pennsylvania) with an accumulated capital of $8,000,000 or $9,000,000—consuming at their works 25,000 tons of coal per month and manufacturing of railroad iron alone upwards of 50,000,000 tons per annum, and who have constructed a railroad running out to their works, which, with its branches, is upwards of seventy miles in length, says the Lynchburg *News*, seriously contemplate establishing a branch of their business in Virginia. Whether induced to take this step by the superior facilities they believe would be afforded them here, or whether, as has been whispered, by threatened exhaustion of their ores in Pennsylvania, it matters not. The important and interesting fact to us is, that they have already purchased several thousand acres of mineral lands in Virginia, and are negotiating for a great deal more along the line of the Virginia and Tennessee railroad, which in the event of their success, will become the great line of transportation for their iron eastward. We learn they design locating their works somewhere on New river.

Tennessee.

A correspondent writes: East Tennessee, or that part of the State lying east of the Cumberland Mountain, is famous for its salubrious climate and picturesque sceneries, and possesses equally great agricultural and mineral wealth, of which may be enumerated almost every element essential to the economies of American life. Iron ores, found under the most favorable associations, abound in limonite, harmatite and magnette ores, scattered in inexhaustible profuseness; the great Appalachian Coalfield covers over 4,000 square miles, with a variety of semi-bituminous coals; we find the carbonates and silicates of zinc, and various lead ores, while marbles of a beautiful color and texture abound in several counties.

COAL.

Pennsylvania.

The Pottsville *Standard* says that in the vicinity of Orwigsburg there exists a peculiar substance, formerly called "Orwigsburg coal" which is now attracting some attention. It bears some resemblance to plumbago, or black lead, and has been used for many years by carpenters and others instead of lead pencils, by merely sharpening it at the point. It makes a distinct mark, is soft, and not at all gritty..... The Mauch Chunk *Democrat* says: We understand that within the last two or three weeks, about 20,000 bushels of coal from the vicinity of Wilke-barre, have passed down the Susquehanna to Columbia and Port Deposit. The price of this article, which is similar to the Schuylkill and Lehigh coal, is said to be three dollars per ton at Columbia, and something more at Port Deposit; and there is good reason to believe that it will be brought from the latter place by the Chesapeake and Delaware Bays, so as to be sold in this market at 30 cents or less per bushel.....Prof. William F. Roberts writes to the Hazleton *Sentinel*, Jan. 24th, as follows: In 1813 the first lot of anthracite left Mauch Chunk for Philadelphia. This coal was dug at Summit Hill, at the place afterwards called the "Great Quarry," from the large area of surface of uncovered coal and slate, worked as quarry work, by the Lehigh Coal and Navigation company for more than a score of years. This great coal quarry is eight miles west of Mount Pisgah on the Lehigh, which overlooks the town of Mauch Chunk—the top of which is upwards of a thousand feet above the river. On the river bank the contorted and undulating nature of the stratification underneath this, the southern part of the Lehigh Anthracite Region, is particularly well exposed. It is chiefly belonging to the Devonian series, the "old red sand stone" of Hugh Miller. These undulations of the strata, shown on the river bank above Mauch Chunk, indicate the existence of terminating, canoe-like points of the coal basins in the hills eastward, forming the eastern ends of the basins, on or near the Lehigh, precisely in the same manner as their western ends point out on the mountain summits towards the Susquehanna. The coal quarry on Summit Hill is about eight miles west from the top of Mount Pisgah on the Lehigh, in the range of the coal basins extending westward to Tamaque, Pottsville, Pinegrove and Dauphin, constituting the first, or south Anthracite Region, almost seventy miles long from the Lehigh to the Susquehanna end of the field. Sharp Mountain forms its southern boundary and Locust, or Nesquehoning Mountain the northern limits of the first or southern trough-like structure of the Lehigh coal field. From the summit, "Old Quarry," these mountains gradually approach each other, and their meeting or joining together forms Mount Pisgah at the Lehigh. The coal measures are gradually lifted or forced upwards, one vein after the other, and one kind of strata after another, cropping out, until the last or bottom vein of coal is lifted to the surface on the narrow top of Mount Pisgah. Then, in going eastward, the conglomerate, the bed rock of the coal formation, crops out around the sharp end of the coal field, and from underneath it the red shale appears, thus giving safe and reliable evidence of having passed beyond all hope of available coal beneath. At Tamaque the so-termed coal basin is a mile wide; the strata is in a vertical position in Sharp Mountain, and dipping at about 70° south in Locust Mountain. In the gaps of these mountains which are opposite each other and formed by the action of the waters of the Little Schuylkill river gradually wearing down these notches, the coal veins and their accompanying strata, as well as the rocks and shales beneath the coal series, are particularly well defined in character and position. The interior or central portion of the coal basin, is greatly distorted in structure, and the strata bears the evidence of being crushed together in sharp wrinkles, so much so as to leave great doubts upon the mind of the observing geologist and others who closely examine the situation, dip and strata of the formation, as to the existence of any large amount of available coal in the central portion of the coal valley at Tamaque. The Locust Mountain here is a continuation of the Nesquehoning, and further west constitutes the Mine hill, an anticlinal axis of the stratification running between the Tamaqua series of coal veins and the Broad Mountain basin. In the eastern portion of the first, or South Anthracite region, the coal is very pure in quality, yielding, after combustion, a small residuum of white ashes; the middle portion, the Pottsville section contains veins of coal, yielding, when burnt, white, gray and red ashes. Further west, in the Pinegrove section, its ignitable quality changes; it burns more free, and partakes, somewhat, of a semi-anthracite character. In this portion of the field, the carboniferous formation runs out westward in two spurs or prongs; the northern prong is the extension of the Nine hill range of coal strata, known as the Bear Gap and Wiconisco prong, the coal of which is semi-bituminous, similar to Bread Top and Cumberland. The other, or southern, is the Dauphin prong, and is the extension of the coal basin next north of Sharp Mountain, the prolongation of this mountain being its southern boundary. In this prong the coal at its eastern part is a free burning anthracite known in the markets as Lorberry coal. Further west, near the line dividing Schuylkill from Dauphin, a transition in its character is shown; and still further, it becomes purely semi-bituminous, and burns free with yellow flame, while at the extreme western end of the prong, near Dauphin, the same coal strata is bituminous. The change is a gradual one, from a hard white ash anthracite at the east end of the region, to a soft bituminous coal in the west. A similar change in the nature of the coal is found in the Welsh coal-fields of Great Britain; also in France, and likewise in our Arkansas coal-field. In travelling over and prospecting the mineral lands of that State in 1853 4, I found pure anthracite on the Arkansas river; further up was semi-bituminous, and still further west it was a fat bituminous coal, these changes occurring in the same basin. The anthracite was first sent to Philadelphia from the Summit hill "great quarry" and transported by teams to the river at Mauch Chunk and four arks were loaded with the coal, then called "black stone," two of which only reached their destination; the others were wrecked in their passage down the Lehigh

—then, as now, in freshets, a turbulent, wild stream. The coal was sold at $21 per ton; but although this, now considered, high price, was obtained, still it was not sufficient to defray the expenses of transit, and the adventure proved a serious loss of time and money to those engaged in it, and, therefore, the business of transporting coal in arks down the Lehigh was not resumed. The two ark loads that reached Philadelphia were purchased by the proprietors of a wire mill at the Falls of the Schuylkill, and much difficulty was experienced in getting it to burn. The more the furnace-men poked and stirred the fire, the less the coal showed a disposition to ignite the other fuel; disgust followed disappointed hopes; the furnace doors were closed, and the men went to dinner, expecting on their return to rake out the "black stone" and replenish with a more tractable kind of fuel. But lo! and behold! how amazed they were when they returned to find the doors and front of the furnace red hot, and the coal inside glowing with heat, so strong, that the like was never before produced from any fuel previously used. This accidental and altogether unexpected circumstance established a reputation for Lehigh coal as the best kind of fuel known, a reputation which gradually grew stronger, and now the coal produced and sent to market from the basin of the Lehigh, as a general thing, is universally admitted to be the purest known, containing the largest amount of carbon, retaining its heating powers longer, and yielding a much smaller per centage of residuum after combustion than other kinds, and has made this coal everywhere, where it is known and used, the favored among the different varieties of anthracite. The old quarry at Summit Hill, above Mauch Chunk, and another similar, though not so extensive, surface exposure in Beaver Meadow basin, were the only two extensive natural coal developments in the Lehigh Region in 1813: and these, as was supposed at that time, marked the limits of the so-called "black stone." It was there and no where else. To have advanced the theory, at that early period, that this "black stone" was regularly stratified, that it extended in a western direction from the great quarry on Summit Hill upwards of fifty miles, that the veins outcropped at or near the surface, and dipped in again, or else folded over beneath the surface, and thus formed repeated basins to the northward, and that the coal formation comprised several layers of this "black stone," of different thicknesses, but each maintaining its own, no' differing to any great extent in size, or variation of its accompanying material of slates and fine clay for long distances, with regular associated slates, shales and sandstone, each of marked character in texture, or color, or both, and these lying in uniform manner between the coal strata —would have subjected the person advancing such ideas, then, to the gibes, sneers, and ridicule of most men of that day, living in that section of the country. He would have been thought a fit subject for a lunatic asylum.

Oregon.

The *Oregonian*, Dec. 8th, says: Mr. Foley showed us yesterday some specimen of the Tillamook coal recently discovered—it is of the bituminous variety. Mr. Foley represents the discovery as situated within a very short distance of the ship channel in Tillamook bay, where it can be got out and put on board without hauling, at a comparatively trifling expense. The vein from which the specimens were taken shows indications of being a large one. The coal of Nehalem is not superior in quality, while it is much less easily got on ship board. The Nehalem bay is a much smaller one and much more difficult of entrance, and the mine is situated some twenty-five or more miles up the river. Notwithstanding these obstacles, the Nehalem coal is becoming an article of commerce; then, why should not the Tillamook coal mine become an immediate source of revenue to that little colony? Besides this coal mine, Mr. Foley says, Tillamook has tin, copper and silver ore, beyond a question.

Illinois.

An exchange says that the new Rutland mining company, in boring for coal at New Rutland, La Salle county, Ill., have struck a rich vein of bituminous coal, three feet eight inches thick, and 269 feet from the surface. They also passed through at 172 feet, eight solid feet of mineral paint, specimens of which brought up with a hollow drill have been tested, and it is said to be of the best quality. The same shaft will enable both paint and coal to be mined. The work of sinking a shaft will soon be commenced.

Nova Scotia.

At the recent meeting of the Nova Scotia Institute of Natural Science, in Halifax, Dr. Honeyman, says the *Colonist*, read a description of the geological formations of the Acadia iron mines, Londonderry. A section of the Cobequid mountains, in that direction, was exhibited, showing the regular succession of the rocks from the Silurian axis, through the Devonian and Carboniferous to the Triassic, and the position and geological phenomena attending the extensive deposits of iron ore (hematite) which are found in the Devonian strata, and worked by the Acadia mining company. Some beautiful samples of the ore were laid on the table for inspection, and the explanation of the phenomena, which had divided the main bed into two parts, was especially interesting. An analysis of the ore by Dr. Percy was read, which gave 95.70 of iron out of 100.30 parts. There is now manufactured at the Acadia mines pig iron of the finest quality, charcoal iron, puddle steel and cast steel. The hematite, it would appear, is now the only ore available for the production of iron, the specular variety being apparently exhausted. The supply, however, has not been affected, as another great bed of hematite has been discovered, of dimensions nearly equal to that which they are now working. The conversation after the reading of the paper had reference to the various kinds of iron ores that were available in Nova Scotia, and where they were to be found. To compensate the exhaustion of the specular ore at Londonderry, other places in Nova Scotia were mentioned where it was to be found in large quantities.

Tasmania.

The Melbourne *Herald* states that Mr. Swift has recently proved, on the coast of Tasmania, a very good seam of coal, four feet four inches in thickness, the character of which is first-rate for steam and household purposes. It is somewhat similar to the cannel coal, burns with great flame, and is found at a depth of 125 feet from the surface, while the seam is situated only three-quarters of a mile from where coal can be shipped. It can be delivered into ships at a cost not exceeding 6s. per ton. A company is in course of formation to work the mine.

QUICKSILVER.

California.

Special Commissioner Ross Browne reports as follows: The quicksilver mines of California are known as the New Almaden mines, and have been open since 1850. In August, 1863, a period of 10 years and 11 months, the total amount of ore consumed was 102 313,442 pounds, and the produce of quicksilver 308,756 flasks, or 23,519,834 pounds. From November, 1863, to December, 1864, the total product was 46,216 flasks, or 3,566,200 pounds, to which is to be added 720 flasks from washings. In 1865 the gross product was 47,078 flasks, or 3,604,465½ pounds, to which is to be added 116 flasks from washings. The gross product for 1866 was 30,029 flasks. The following is a comparative statement of all the quicksilver exported from California to various countries since 1859:

To	1859. Flsks.	1860. Flsks.	1861. Flsks.	1862. Flsks.	1863. Flsks.	1864. Flsks.	1865. Flsks.	1866. Flsks.
New York	250	400	600	2,265	95	1,695	6,300	3,500
Gr. Brit'n	....	....	2,500	1,500	1,062	1,609	10,400	10,400
Mexico....	103	3,886	12,061	14,778	11,530	7,433	2,650	6,450
China....	1,068	2,775	43,788	8,725	8,889	18,903	14,250	17,250
Peru	571	750	2,884	3,439	3,376	4,300	5,500	5,500
Chili....	950	....	2,050	1,746	500	2,674	2,000	2,500
Cen. Am.	....	....	110	40	40	30	....	....
Japan....	....	....	50	25	....	262	....	....
Australia.	325	100	1,550	800	300	103	200	200
Panama..	133	330	57	424	120	45	....	....
Victoria, V. I....	19	327	116	5	42	21	....	....
Total...	3,369	9,448	35,905	33,747	26,014	36,913	41,800	45,900

The other quicksilver mines in California did not average 1,000 flasks per month in 1856.

OIL.

Alabama.

A correspondent of the Nashville *Advocate* says: During the past year the Rev. Mr. Harris has spent the hard earnings of the previous year in digging in search of a copper mine, which he suspected existed in some mountain land which he still owned, and which every one knew was not worth cultivating. After toiling for some time, and not heeding the ridicule which some malicious person heaped upon him, to his utter astonishment he stumbled upon, not copper, but "petroleum"—one of the richest, from all indications, in the whole South. Those who understand mineralogy have examined carefully, and pronounce it without doubt petroleum. This extensive petroleum formation is situated four miles from Whitesburg, a landing on the Tennessee river, and is well worth the attention of those who are engaged in the oil business. The outcroppings, 16 or 18 inches thick, dip down increasing in thickness. The natural formation when burning, gives a strong light, throwing off dark smoke. When burnt, it leaves behind the finest of stone coal; and when run off in a retort, yields at least one-third of petroleum. To these facts I am an eye-witness. I have seen a specimen of the oil, saw it burn, and saw the coal—firm, nice coal—which it left behind.

Kentucky.

The Glasgow *Times* says: Some time have elapsed since we have made a report on oil matters. The weather has been so severe, that no work has been done, and our report will be a notice of old wells now producing. The two wells of the Pithole Company are flowing steadily every day; the old Kinslow is still belching forth in undiminished quantities. A. Armel's No. 2 is flowing and increasing; bids fair to make a good well; is still flowing the greater part of the time, and is rapidly filling up tanks. The Byram and Dans Wells, Indianapolis Co., are producing steadily without any decrease. There is now on Boyd's Creek something near 5,000 bbls. of oil. There has been some trading in territory on the creek within the last few weeks, Mason, Struble and Price having purchased five acres of land of Mr. Barlow, immediately on Boyd's Creek, just above the Pithole wells. They contemplated commencing operations in a short time.

MISCELLANEOUS.

Pennsylvania.

Lithographic stone, which works better and much finer than that imported from Bavaria, has been discovered by Joseph S. Patterson, Esq., near Wadesville, in large quantity, and will at once be developed. The *Standard* says: The stone has been tested on the bridge-wall of the furnace of Atkins Bros., and from the results of the experiment it is thought that it will make excellent lining for furnaces. We have seen a fine specimen of a lithograph from this stone. It is found ten feet below the surface..... The same paper speaks of a tract of land belonging to John McBarron, at Mahanoy Planes, where a deposit of limestone and mineral paint has for some time been known to exist, although it has not attracted much attention until quite recently. The deposit covers a large extent of ground, and is said to be underlaid by a valuable bed of hematite iron ore. The paint was used by Mr. McBarron last summer, on a house in Market street, Pottsville, and gave great satisfaction. It has been tested and found to be perfectly fire-proof. A board covered with three coats of this paint was thrust amongst burning coals, and was entirely uninjured by the fire. Samples of the deposit assayed thus:

	Limestone.	Paint.
Silex	27.30	60.00
Alumina	8.40	20.25
Oxide of Iron	6.60	13.45
Lime	32.55	0.00
Magnesia	1.98	0.00
Water	0·08	6.30

The balance of the limestone is carbonic acid. A paint mill was established a few years ago near Ringgold, by Messrs. French & Richards, of Philadelphia, who procured their raw material from that vicinity. The mill afterwards suspended operations, for some reason unknown to us. The same vein is now being worked on the Lehigh, in the neighborhood of Perryville. It is probable that the vein discovered by Mr. McBarron is also the same.....The Mauch Chunk *Democrat*, Jan. 26th, says: The Pithole Slate company on Rex's farm, about one mile from Slatington, have sold a fourth interest in their quarry to Messrs. Nathan and Samuel Patterson, of Summit Hill, for $2,775.

The South Wales Coalfield.

In treating of the duration of the above coalfield, Mr. Bedlington, of the Rhymney Works, estimates that the upper and lower seams of the district, of two feet and upward in thickness, contain a total of 21,374,976,000 tons of workable coal, and after deducting the comparatively small quantity already worked there is left the enormous total of 20,000,000,000 tons. This calculation is based on the ordnance surveys and other recognized authorities, which show that the aggregate area of the coal basin is 866 square miles, and Mr. Bedlington estimates that each acre will yield 1,200 tons, after making due allowance for faults, loss in working, and other drawbacks. The lower seams contain by far the largest quantity, and in order to work the coal it will be necessary to go down a depth of 1,000 yards, which is believed to be the greatest depth in the centre of the basin. In Lancashire there are now pits 700 yards deep, which are successfully managed, and from the constant improvement that is taking place in mechanical appliances, there is every probability that long before the coal of the lowest strata is required the difficulties of going down or working 1,000 yards deep will be entirely removed. The present yield of Monmouthshire and South Wales is about 11,000,000 tons annually, and at this rate the basin will not be exhausted for 1,918 years, and it will supply the total consumption of the United Kingdom for 229 years. The increase of temperature in working the lower measures will be considerable, as heat increases about one degree in every 55 feet, but with adequate ventilation no difficulty is anticipated under this head. As to the probable increase in the consumption, Mr. Bedlington believes that the maximum has been nearly reached. Looking at all these facts, which, it may be said, are the embodiment of the opinions of the leading mining engineers of South Wales, there is not much cause for alarm as to the predicted exhaustion of our coalfields.—*Colliery Guardian.*

AMERICAN
Journal of Mining.

[ILLUSTRATED.]

GEORGE FRANCIS DAWSON,
EDITOR

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OFFICE, 37 PARK ROW, NEW YORK.

Published Every Saturday Noon.

TERMS:

SUBSCRIPTION.		ADVERTISING.	
Per annum, one copy -	$4 00	One line [Nonp.] 1 inser'n.	$0 30
Six months, one copy -	2 25	One Square, 10 lines, one do	2 00
Three months, one copy -	1 25	One Square, do. four do.	5 00
Single copy -	10	One Square, do. one year,	40 00

Canadian subscribers 25 cents extra for postage.

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No. 37 Park Row, and No. 145 Nassau Street, New York City.

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PENNSYLVANIA.—T. R. CALLENDER, cor. 3rd and Walnut streets, Philadelphia, Pa.

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NEW YORK, SATURDAY, FEBRUARY 2.

Contents of this Number.

EDITORIALS.—Plagiarism, Stultification and Misrepresentation in Com. Ross Browne's Statistical Mining Report—A Warning; Dangerous Legislation against the Copper Interest.
ORIGINAL PAPERS.—The Electro-Positive Metals, No. 12, by Joseph Hirsch, Ph. Dr.—The Silver Mines of Colorado.—Gold, its Sources and Origin.
ILLUSTRATED MACHINERY.—Storer's Patent Lubricator.
SCIENTIFIC MEETINGS.
MINING SUMMARY.—News from Nevada, Colorado, California, Montana, Oregon, New Hampshire, Michigan, Vermont, Canada, British Columbia, Idaho, Missouri, Pennsylvania, Virginia, Tennessee, Illinois, etc.
MISCELLANEOUS—The South Wales Coal Field—Depths of Mines in England, etc. etc.
MINING COMPANY MEETINGS—DIVIDENDS.
PATENT CLAIMS.—Important to Mill Men, Miners, Metallurgists, Oil Men, etc.
TABULAR MATTER.—Gold, Copper, Lead and Silver Mining Companies; Names, No. of Shares, Capital Stock, Situation of Mine, Name of Secretary and Place of Business.
MARKET REVIEW.—Mining and Petroleum Stocks, Finances, Stocks, Metals, etc.
THE COAL TRADE.—Quotations, Shipments, Freights, Cargo Rates, Weekly Coal Trade Circular.
SLATE TRADE REPORTS.
FOREIGN MARKET REVIEW—Metals, etc.
NEVADA STOCKS.—Latest advices by Telegraph.
NEW YORK METAL MARKET.
SPECIAL SCIENTIFIC BREVITIES.
MINERAL AND OTHER OIL-PITS.
ALL SORTS.

PLAGIARISM, STULTIFICATION AND MISREPRESENTATION IN COMMISSIONER ROSS BROWNE'S STATISTICAL MINING REPORT.

The mountain has labored and brought forth—a mouse. J. Ross Browne, who, several months ago, went, with a flourish of trumpets, to the far West as special commissioner to collect and report mining statistics of the Pacific States and Territories to our Government, has done his work, and done it as badly as we anticipated when we learned that he was occupying the time that should have been devoted to his official business in presiding over the deliberations of the California Wine Growers' Association, and attending to the interests of the Lower California Land Company. At the head of our mining summary, this week, appears the *Tribune's* condensation of all the important portions of his report, and after careful perusal, we can only say that it could have been made up quite as well in New York as in San Francisco. It seems to be simply a revamp of the labors of Messrs. Ashburner, Remond and others, long ago spread before the public in the JOURNAL OF MINING, and some portions of it are most unblushingly plagiarized. The most important part—the estimate of the product of gold and silver for 1866—is a case in point. Mr. Browne does not actually say, in so many words, that it is *his* estimate, but he endorses it by saying that "*well informed persons* estimate the product for 1866 as follows." Now let us compare this estimate of "well informed persons" made in December, 1866, with the estimate of a contemporary made six months before, and published at the time in this journal:

Estimated yield of Gold and Silver for 1866 made in December, 1866, by Commissioner Browne's "well informed persons."		Estimated yield of Gold and Silver for 1866 made in June, 1866, by a contemporary, and published, June 30, in JOURNAL OF MINING.	
California	$25,000,000	California	$25,000,000
Montana	18,000,000	Montana	18,000,000
Idaho	17,000,000	Idaho	17,000,000
Colorado	17,000,000	Colorado	17,000,000
Nevada	16,000,000	Nevada	16,000,000
Oregon	8,000,000	Oregon	8,000,000
Other sources	5,000,000	Other sources	5,000,000
Total	$106,000,000	Total	$106,000,000

If this is not one of the most glaring cases of plagiarism ever exposed, it is one of the most marvellous coincidences ever known. The above estimate we cut out from an exchange, intending to comment dissentingly thereon, but by accident it went with other "copy" to the printer, and appeared in our journal of June 30th. In our issue of the succeeding week we attacked this estimate, and gave the following as one more nearly to be depended on, although "even this," we thought, "would be rather over than under the mark":

California	$20,000,000	Colorado	$9,000,000
Montana	16,000,000	Other sources	4,000,000
Nevada	15,000,000		
Idaho	10,000,000	Total	$82,000,000
Oregon	8,000,000		

Mr. Browne evidently saw the first publication and missed the second, else as a man of sense he could not have endorsed such an estimate as he has. No sane man will believe that the United States produces over half of all the precious metals in the world—yet the figures of his estimate are to that effect—said annual product of the world being $161,000,000. He seems to forget the immense annual yields of Australia, New Zealand, Mexico, Peru, Brazil, Bolivia, to say nothing of Nicaragua, Costa Rica, British Columbia, and other possessions in North and South America. Add to these the products of gold and silver from the famous Uralian gold mines of Russia, plus those of the mines in Spain, Prussia, the Hartz and other parts of Europe, including Great Britain (whose annual product of silver alone reaches $1,000,000), and we think we were very nearly right in giving our total estimate as we did, viz:

The United States	$82,000,000
Balance of North and South America	54,000,000
Australia	25,000,000
Europe	23,000,000
Total	$161,000,000

This, instead of Commissioner Browne's plagiarized estimate of two-thirds, gives us *over half the total annual product of the world!* Enough, in all conscience. Who believes that Colorado has this year produced $17,000,000? or that Idaho has produced $17,000,000? Doubtless both those Territories, under *propitious circumstances*, are capable of producing much more, and the coming time they doubtless will do so, but Commissioner Browne has made a mistake in the character of the people of those Territories, if he imagines that they will think well of the man who exaggerates in their favor. We should be sorry indeed were American character sunk so deep as to honor and value a man who lacks industry to ascertain facts or nerve to truly display those facts when obtained. Congress appropriated $15,000 for the purpose of securing *reliable*, original information, not such stuff as much of Commissioner Browne's report is made of; and it seems to us that as the object of the report has not been secured, the payment of the appropriation should be stopped. The commissioner's bondsmen, we presume, are liable for the amount already foolishly expended, and they should be made to pay, if the commissioner himself cannot be forced to disgorge, and the Secretary of the Treasury should be held to strict account for having appointed a person to such a trust, who, to say the least, has proven himself incompetent. Why, the commissioner even stultifies himself in his own report. After endorsing the plagiarized estimate above alluded to, in which the whole product in 1866 for Nevada is placed at $16,000,000, he states that for 1866 the yield of the Comstock lode alone, in Nevada, was $16,000,000! In one portion he says that the yield of that lode is 90 per cent. of all the bullion extracted in that State, yet in another he states that "of the 179 mills of Nevada, 88 are in the Washoe District." Now, if the product of the Comstock was 90 per cent. of that of the whole State, there should be nearly 90 per cent. of the number of mills and stamps in the "Washoe District" where the Comstock ores are crushed. Yet, according to Mr. Browne's figures, that district contains less than 49 per cent. of the mills. Again, in the endorsed plagiarized estimate he gives the product of Oregon for 1866 at $8,000,000, and, forgetting his "well informed persons," he afterwards says it "does not exceed $2,000,000!" Again, he says: "The yield of Washington Territory is put down at $1,000,000," and then very naively declares, "though *three-quarters of the amount is the product of British Columbia!*" Convicted of false estimate by his *own admission!* Then, again, the product of Idaho previously estimated at $17,000,000, the Commissioner elsewhere thinks "will not fall short of $10,000,000. Some ('well informed persons?') estimating it much higher." And, once more, he says: "The public press of Montana claim that the product of the Territory for the year will reach $15,000,000; but this is thought too high an estimate," although his 'well informed persons" had estimated it at $18,000,000! Now, it so happens that we have the figures for Montana. Idaho, it is well known, sends all her product by way of Oregon; Montana, on the contrary, sends hers overland via Fort Benton. This, in connection with the following, which we extract from the just delivered message of Governor Marshall to the Minnesota Legislature, tells the yield of Montana pretty nearly:

> A branch of the Pacific Railroad would place Minnesota on the very highway of the commerce of the world. It would open up to us at once the market and exchanges of Montana—the richest and most productive of the gold mining regions. * * * The value of the commerce of this region can be judged of from the following statistics of the tradel ast year. There were 53 arrivals of steamers at Fort Benton from St. Louis. The value of the merchandize thus transported was $6,605,000. The cost of transportation was $5,500,000. *The value of gold by return steamers, as shown by their manifests—not including that brought by private hands—was* $16,000,000.

From the lights now before us, we are satisfied that our estimate, as published last July, was, as a whole, nearly correct, and that the product of gold and silver in the United States for 1866 is, nearly as possible, as follows:

California	$23,000,000	Colorado	$7,000,000
Montana*	16,000,000	Oregon	2,000,000
Nevada†	16,000,000	Other sources	5,000,000
Idaho	10,000,000		
Total			$81,000,000

* See Gov. Marshall's Message.
† $12,000,000 from the Comstock.

But if our last July's estimate was faulty, what can be said of Commissioner Browne's? It was a great mistake for Secretary McCullough to make such an appointment. Because a man is a rhymster, a small wit, a decided humorist, a spirited correspondent and caricaturist, who has often been accused of malicious exaggeration (*vide* his letters, libeling the women of Germany and his first sketches of "Washoe" in *Harper's Magazine*,) a judge of wine, a "first rate fellow" among those who pay him well for his illustrated descriptions in *Harper's*, (no allusion to Bodie,) and a rather quiet, gentlemanly person in general, are these reasons why he should consider himself capable of performing the office of Commissioner of Mining Statistics for the United States? Or because he presented the Secretary of the Treasury with a quantity of good California wine, in behalf of the California wine growers, and a humorous

"pome," is that any reason why the Secretary should put Mr. Browne into this Commissionership? These things should be looked into by the proper Congressional Committee. While there are such men as Whitney, Blake, Ashburner, Remond, Gabb, Du Bois, Kustel and many other practical scientists, west of the Rocky Mountains, or such thorough and industrious statisticians as Langley (of the California *State Register*), and Du Pratt (of the S. F. *Mercantile Gazette*), in San Francisco, it seems like throwing money away to employ a person who is simply and only a traveller and pleasing letter-writer.

A Warning—Dangerous Legislation against the Copper Interest.

We believe in a discriminating tariff, but not in such an one as would discriminate in favor of an industry in one part of the country at the expense of the same industry in another part of the country. This the U. S. Senate appear to be doing when they protect Lake Superior copper as against the copper produced elsewhere in the United States, by levying 3 cts. per lb. duty on fluxing ores, which we are obliged to import from Chili. If this measure is carried out the result will be the stoppage of a number of copper mines, the ores of which cannot be smelted without the foreign ores. We trust that the Senate will reconsider this matter.

The Duty on Foreign Coal.

We are glad to announce that the Senate, by an overwhelming vote, decided to retain the present duty of $1.50 per ton on foreign bituminous coal. This is bad news for Commissioner Wells and the Nova Scotian mine owners, but good for those who desire to see the vast bituminous deposits of this country worked remuneratively.

MEETINGS.

Broad Top Coal & Iron Co., at Carlisle's Hotel, Morrisville, Pa., Feb. 12, 1 P.M.; Del., L. & W. R. R. Co. at 26 Exchange Place, Feb. 10, 12 M.; Wells, Fargo & Co. (late the Holliday Mail & Express Co.) at 84 Broadway, Feb. 5, between 10 A.M. and 2 P.M.; Manhattan S. M. Co., at 59 Broadway, Feb. 5, between 12 and 2 o'clock; Huideck oper. Pet. Oil Co., at 26 Broad street, Feb. 8, 3 P.M.; New York & Newark Pet. Co. at 79 John street, office, C. S. Westcott, Esq., Feb. 5, between 12 and 1 o,clock; N. Y. & Santa Fe M. Co. at 32 Pine street, Feb. 6; N. Y. & Nevada M. Co., same place and time; Realto M. Co. at 119 Broadway, Feb. 7; Donley Farm Oil Co., Phil., Feb. 13; Dorchester M. Co. at 423 Walnut street, Philadelphia, Feb. 6, 3 P.M.; Aztec M. Co. (of L.S.) at 23 City Exchange, Boston, at 12 M.

DIVIDENDS.

Clinton Oil Co., at 115 Liberty street, 1 per cent., now due; Bigelow Blue Stone Co., 5½ per cent. on demand; Mountain Oil Co., at 192 Broadway, 1 per cent., payable Feb. 9; Ocean Oil Co., Philadelphia, 2½ per cent. on demand.

ASSESSMENT.

Ogima Mining Co. (L. S.) $2 per share on or before Feb. 9.

Scientific Meetings.

AMERICAN INSTITUTE—POLYTECHNIC BRANCH.

A BURNING SUN—UPLAND COTTON—NEW APPARATUS FOR COOKING AND KEEPING COOL—THE MANUFACTURE OF BEET SUGAR—INTERESTING STATISTICS.

At the meeting of the Polytechnic, on Thursday evening, Professor Tillman communicated notes on several scientific subjects, among which was a description of the burning sun, discovered by Mr. Bermingham, of Tuam, [Ireland.] It was ascertained by means of the spectroscope that the rays of light of the planet in question, were of two distinct kinds, and it was thence inferred that a conflagration was taking place. Subsequent investigations proved the correctness of this conclusion—one of the most remarkable discoveries made since that of Le Verrier's planet.

Some upland cotton, grown in Columbus, N. C., having been exhibited, Mr. Miller made a statement regarding the superiority of American cotton over that raised in India and elsewhere. This he said was conclusively shown in Manchester, by means of a magic lantern, some specimens of the cotton of all countries having been successively placed in the focus, a shadow of the fibre was thrown on a sheet. American cotton exhibited a curved appearance, proving that it was unusually elastic, while all the rest was straight, and liable to break easily. On this fact being proved, the cultivation of Indian cotton was discontinued. Mr. Miller attributes this excellence of our cotton to the heaviness of the dew, prevalent in the Carolinas.

Mr. Knott exhibited an apparatus for cooking food by keeping it in boiling water for several hours without any additional heat after the boiling has taken place. The principle on which this is done, is that the heat of the water is prevented by means of an almost perfect non-conductor from passing off. He has also another contrivance, by which he prevents ice, &c., cooling. This, too, is constructed on the principle of non-conduction.

Dr. Hirsh resumed his explanation of the manufacture of beet sugar. On the last evening of meeting, he described the cultivation and maceration of the root. Taking up the subject there, he, at considerable length, enumerated some of the best means of performing the chemical processes of defæcation and filtration. Having had considerable experience in such manufactures, Dr. Hirsh's statement was listened to with considerable attention, and at its close he was warmly applauded. The question of the utility of this sugar as an article of commerce having been raised, Mr. Parmelee expressed some doubts as to the possibility of raising in this country a sugar which could compete with that of cane. Mr. Grant, in differing from him said that beet sugar forms forty-five per cent. of that used in all Europe, seventy-five per cent. of that used on the coutinent, and that no other is used, to any extent, in Paris. An immense quantity is used in the Zollverein. From the juice of the beet there has been pronounced in France 8.5 per cent. of sugar. In that country, notwithstanding the dearness of land, and the annual exportation to England of 70,000 tons, this sugar can be bought at five and a half cents per pound. Prof. Tillman read some valuable statistics to prove the steady and almost incredible increase of the quantity produced in France. In 1824 less than five thousand tons, in 1833 an increase of eight thousand tons; in 1857 there were produced 80,870, and in 1858 more than 150,000; while in 1865 there were 270,000 tons manufactured, showing an increase of over 100,000 tons on the preceding year. This subject will be resumed at the next meeting.

XAVIER ALUMNI ASSOCIATION.

ELECTRICITY—A BISHOP TURNING WATCHMAKER, ETC.

Last Monday evening, in spite of intense cold, the spacious lecture hall of St. Francis Xavier's College was comfortably filled by the Alumni Association and friends. Dr. Herbermann announced that these meetings were held for the purpose of improving, intellectually, the Catholic youth of this city, and all who felt interested in the cause were welcome. He introduced a gentleman who read a paper descriptive of certain scenes in the life of Columbus.

Professor F. E. Englehardt, Ph. Dr., followed in a very interesting lecture on Electricity—prepared with his usual care and ability—illustrated by very pleasing experiments by which various forces of that vast power were demonstrated to the great delight of the audience.

The Bishop of Vancouver, who has lived for forty years among the Indian tribes of the Northwest, then spoke for a few minutes, telling some interesting personal anecdotes illustrating Indian life, etc. He had taken an electrical machine with him years ago, and gave an iron-nerved Indian a shock, which he stood full well. This Indian at once told his companions—and the story became generally circulated and believed—that "the missionary" had an instrument by which he could tell the bad Indians from the good. Good Indians could quietly hold on to it, but bad ones jerked about and let go! To shew how truly "necessity is the mother of invention," the Bishop mentioned that long before the rush to California, he broke the crystal of his watch, and as there was no watch makers there, he heated a piece of common glass, moulded it in the right shape, and then with a diamond cut it to fit his watch. "It did very very well, and lasted" said he, "until the first watchmaker arrived in California." The Bishop who speaks the language like a native, then described some of the differences between the many Indian dialects of the Northwest, after which the meeting adjourned.

Original Papers.

[WRITTEN FOR THE JOURNAL OF MINING.]

THE ELECTRO-POSITIVE METALS—No. 12.

ALUMINIUM—ITS PREPARATION.

By JOSEPH HIRSH, Ph. Dr.

[CONTINUED FROM PAGE 266.]

These retorts, exposed to an intense heat, are burnt out in a very short time, two or three months, unless they are protected by a jacket of firebrick, which should also surround the pipe, introducing the chlorine into the retort when the manufacture of the chloride of aluminium progresses successfully, no white vapors should escape from the retort. The carbonic oxide, escaping, has always a pungent, penetrating odor, caused by the minute quantities of chloride of silicium and chloride of carbon generated whenever the degree of heat is insufficient. The top of the condensing chamber contains the greater part of the chloride in a solid cake of yellow crystals. Those crystals do not keep well for a great length of time, and no more chloride should be manufactured at a time than can be used up in one or two days. The furnace containing the retort is provided with openings all along its entire length, which are closed by bricks, removable for the purpose of examining the retort during operation. In the course of time the retorts become cracked and leaky, permitting the escape of vapors of chloride of aluminium, which colors the flame of the furnace blue. As long as these cracks are not too large, they may be closed by a cement, consisting of liquid glass and asbestos. In practice many of the necessary precautions are neglected, and the resulting chloride of aluminium is not pure frequently in consequence of the apparatus used. In this case a purification of the salt is advisable before its employment for the reducing process. For this purpose it is best heated in a vessel of stoneware or cast iron, with a large amount of iron nails or filings. The vessel must be capable of being closed hermetically. The muriatic acid vapors, hydrogen, besides other permanent gases, are permitted to escape when the apparatus is closed, the application of heat being continued. This causes pressure within the vessel, under the influence of which the chloride of aluminium melts, coming into immediate contact with the iron. The perchloride of iron, just as volatile as the aluminium compound, is reduced to the chloride of much greater constancy, so that the chloride of aluminium is greatly purified, crystallizing in large prisms (apparently straight rhomboids), transparent and colorless at the top of the vessel. If these crystals are redistilled in an atmosphere of hydrogen, they become entirely pure.

When impure or crude chloride of aluminium is to be employed, the operation of its reduction must be connected with that of its purification.

For this purpose it is placed into an upright cylinder, heated in an appropriate furnace. From this cylinder the vapors of chloride of aluminium pass into a horizontal cylinder of the same dimensions as the vertical one, the former being filled with nails and heated to a cherry red heat. In this cylinder the decomposition referred to before takes place. The perchloride of iron is transferred into the chloride, hydrochloric acid, produced by the action of atmospheric moisture upon the chloride of aluminium passing over with the latter, while the chloride of sulphur, forming one of the impurities of the crude salt, is decomposed into chloride and sulphuret of iron.

From this last cylinder the vapors pass through a wide tube, which receives all the chloride of iron car-

ried along mechanically by the former, into another horizontal cylinder of much larger capacity, which contains a number of small cast iron vessels, filled with sodium. The connecting tube between the two last cylinders is kept at a temperature of 400 to 600 deg. F., at which the chloride of aluminium does not condense, while the chloride of iron remains unchanged. The last cylinder is exposed to a slight red heat at the beginning of the operation, while afterwards the reaction between the chloride of aluminium and the sodium is so intense that the consequent heat renders the removal of all the fire necessary.

This reaction produces chloride of sodium and aluminium. The surplus amount of the chloride of aluminium, which has not come in contact with the sodium, unites with the chloride of sodium to a double compound of the two metals with chlorine, which by its volatility is carried from the first dish in the tube to the second, the sodium of which produces anew a decomposition of the double salt, its product being again aluminium and chloride of sodium, which again may form a double compound, as before. In this manner the decomposition progresses, each dish with sodium producing a reduction, as soon as the one preceding it is covered with a crust of chloride of sodium, which precludes any further contact of the sodium with the vapors of chloride of aluminium.

The operation is concluded when the last dish contained in the cylinder has its sodium used up and changed into a black, bloated substance, which floats in a colorless liquid, the chloride of sodium and aluminium. This may be observed by opening the end of the last cylinder.

At this stage the dishes are removed, covered and allowed to cool, while they are at once replaced in the cylinder by fresh dishes, filled with sodium, when the process of reduction commences anew. The contents of all the small dishes, after cooling, are removed to larger cast iron or clay crucibles, which are heated in the sodium furnace until complete fusion and volatilization of the double compound of chlorine has set in. This double compound of chlorine absorbs all the sodium, which by the crust of chloride of sodium formed at the beginning of the process, has been deprived of further contact with the chloride of aluminium, so that finally aluminium remains behind, covered by a large quantity of its chloride, which is indispensable for the success of the operation.

[TO BE CONTINUED.]

[WRITTEN FOR THE JOURNAL OF MINING.]

THE SILVER MINES OF COLORADO.

By "SENECA."

That the silver interests of Colorado are entitled to no little attention in mining circles is a fact now being rapidly established. The extended area of discovery and the unvarying testimony of assayers as to the value of the ores, afford substantial grounds for a close investigation of the region of country producing them. The region known as the silver district of Colorado comprises, in a great measure, the southwestern portion of the great universal belt which passes through the Territory in a northeasterly and southwesterly direction, the general bearing of the ledges corresponding with that of the universal belt. From a point on the Snowy Range, near the sources of the South Clear Creek and Snake River, extending either way from the summit, the outcrop and surface indications are found at distances varying from twelve to fifteen miles, covering an area of from three to six miles in width. Although but recently discovered, and boasting but little development, there are many reasons for believing:

1st. That the veins are true silver veins.

2d. That they are true fissure veins, and therefore of undeterminable extent and continuous in formation.

3d. That they bear marked similarity to the great silver producing veins of the world, and conform to the same general rules, which exploration has established to be the characteristics of producing silver mines.

Perhaps the best testimony which can be adduced in support of the first article of this argentiferous creed, is the composition of the ores so far as they have been exposed. Within the limits of the region of country described, there is found almost every variety of true silver ore known to the scientific world. Veins of argentiferous Galena are most prominent and numerous in the group. There are found, in combination with these, and frequently in different veins, chlorides, bromides and oxydes of silver, the various sulphuretic ores and their combinations with arsenic and antimony, quartz, horn silver, and their native metal. It would be difficult to imagine a series of veins in which these varieties of ores occur without being impressed with the belief that they are true silver veins. This hypothesis is corroborated and sustained by the noticeable fact that they occur in a formation common to all the silver producing mines of the world.

"The testimony of the rocks," is the strongest evidence of their origin, the masses of trachytic rock which surround them and go far toward composing the hills upon whose sides the veins are most numerous, bear strong though silent testimony to the theory of irruptive formation. Syenite and prophylite compose in a great measure the accompanying material of the mountainous formation.

Much of this evidence may be adduced in support of the proposition that these are true fissure veins. In a report to the Sutro Tunnel Company on the general characteristics and probable origin and continuity of the Comstock vein, it is ably argued that the existence of trachyite rock in the vicinity of the vein in great quantities was evidence of irruptive origin, and consequently undeterminable depth, and this point was more forcibly stated in a subsequent portion of the report and further sustained by the fact that in process of irruption the vein matter had forced its way through *different formations*. This fact has not yet been determined in Colorado further than that the country rock differs on opposite sides of some of the prominent veins, but that it is common to the country is highly probable, considering the enormous quantity of volcanic matter which has been forced to the surface, and that too at the highest general altitude on the continent.

Of the third proposition personal evidence must at present be relied upon to establish the truth. But if science has properly recorded the characteristics of the various silver mines of the world, their counterpart may be found among the noticeable veins of Colorado. Points of special similarity will be noticed in subsequent descriptions of particular veins. But that the general formation of the country, its geology, the veins, their filling, pitch, direction and surroundings, all go far toward establishing the truth of the propositions assumed, there is little doubt.

TO BE CONTINUED.

[PREPARED FOR THE JOURNAL OF MINING.]

GOLD—ITS SOURCES AND ORIGIN.*

By Dr. LOUIS FEUCHTWANGER.

About the year 1828, after the discoveries of gold and platinum in Siberia, geologists declared that these metals belonged to the older fossiliferous rocks, overlaid by secondary and tertiary deposits. From a consideration of the gold found in the Urals, Murchison supposed that the supply decreases as we descend. This theory was again put forward when our El Dorado produced, in 1849, over thirty millions. It was then maintained, that as soon as the placer diggings should be exhausted, the gold must diminish. We have, nevertheless, since obtained one thousand millions of gold, and in the period immediately preceding the report of 1866, about fifty-five millions, so that the yield is constantly on the increase as we penetrate into the earth. Dr. Feuchtwanger confesses having been led into the same error on the early Californian discoveries, and he held that all the alluvial gold which came down the Sierra Nevada and filled the rivers Stanislaus and St. Joachim, was brought down when a general terrestrial revulsion took place at a very late period, and when in eastern Mexico a general tornado submerged several towns, like Palenqua; also, that such revulsion took place in nearly one latitude, or, in a line from San Diego, on the Pacific, in lat. 32°, along New Mexico, to the eastern portion of Mexico. In this opinion he was partially confirmed by a report of Lieuts. Emory and Abert, who stated that gold was so plentiful in Santa Fé that the children filled their quills with gold dust taken from the sands. He now coincides with Dr. R. P. Stevens, that gold occurs in veins, or rather that gold, if found in veins, does not belong to one series of rocks, but that it shares its formation with the metamorphic, such as the talcose and argillaceous, graywacke, green stone, mica and gneiss schists, which can be proved by specimens he brought from California. Hitchcock states that gold and platinum always occur in metallic states, and they usually have been explored in drift. They are often associated with other rocks, and in this country especially a gold deposit has been traced from Canada to the southern part of Georgia, and the metal is embraced in the talcose state formation, in veins usually of quartz. The same is in California, although eruptive rocks are there more common. Dana says that nine-tenths of all the rocks of the globe have been formed at the close of the Palæogoic period (Siluvian, Devonian and carboniferous,) and before the Mesozoic, or Reptiles. During the revolution that followed these beds, besides undergoing in many regions an extensive crystallization, were also supplied with mineral wealth. Much of the gold of the world comes, originally, from rocks which were metamorphosed and filled with veins at this time. None of the precious metals are known to occur in the crystalline azoic. The veins of gold quartz which contain the gold were brought forward through fissures of the slate, but were not filled up from below by injection, an idea offered to account for the formation of metalliferous veins, but by long continued heat, accompanied by uplifting and disturbance of the beds.

The geysers and other great volcanic eruptions have probably produced the immense metamorphization of such minerals as are associated with the gold-bearing quartz veins such as iron pyrites. The continued heat beneath the ocean, must have produced a decomposition of the sulphur and iron from the pyrites, and dissolved either the silica or produced fissures in which the native gold found a place. When young, Dr. Feuchtwanger supposed that as gold is six times specifically heavier than any crystalline or other metamorphic minerals, and it being only found in its native state with platinum, (which is 21, gold being 19, and all other rocks, crystalline and metamorphic, 2·5 specific gravity, both metals must naturally have been thrown out by central fire from the spheroidal crust along with the igneous rocks in their original fluidity, but which settled down first on account of their great specific gravity. It is generally supposed that the volcanic eruptions have produced a metamorphose or transformation, and Leibnitz's theory, promulgated in 1680, that our whole planet was once in a state of liquefaction by heat, appears to corroborate such ideas. It must not be forgotten that all our observations have been made near the surface, and that we have explored but a small portion of the exterior of our planet, say ten miles; while according to late calculations the crust of the earth is eight hundred miles thick. This crust is occupied by distinct mineral masses or rocks which are divided into four great classes: AQUEOUS or sedimentary, or fossiliferous: VOLCANIC, or unstratified, and in which no fossils are found; PLUTONIC, which form the lofty mountains, and METAMORPHIC, or stratified crystalline rocks, which are the slates or schists, such as gneiss, mica schist, clay slate, chlorite slate, etc., and correspond in form and arrangement to those of sedimentary formation, and which, according to the Huttonian theory, were originally deposited from waters, but were afterwards so altered by subterraneous heat as to assume a new texture.

It was supposed that granite was first formed together with a crystalline or metamorphic strata, and therefore called primitive, and that the Neptunian or volcanic rocks were afterwards superimposed, but that all formations, whether stratified or unstratified, earthy or crystalline, with or without fossils, were alike regarded as of aqueous origin. In the middle of the last century Lehman divided the rocks into three classes: the first and oldest he called primitive, which comprised the plutonic and metamorphic rocks; the next he called secondary, including the aqueous or fossiliferous strata; and the third,

* Read before the American Institute.

alluvial, formed at the deluge. The origin of the first was purely *chemical*, granite and gneiss, with no organic remains, therefore antecedent to the creation of living beings, and coeval with the birth of the world itself. The secondary formations must have been *mechanical* deposits, produced after the planet had become the habitation of plants and animals. This theory was improved lately by Werner adding a *transformation* between the primitive and secondary. The Neptunian theory of Werner became a great favorite, and went so far as to class trappean rocks—the origin of which was fully demonstrated to be igneous—in the aqueous, and as mere subordinate members of the secondary formations. That volcanic action must have been a very powerful agent when in connection with water leaves no doubt, and it must be considered that in a large portion of the earth live volcanoes have existed for ages, and are still in existence. From a consideration of a magnificent eruption of a volcano seen by him in Guatemala, Dr. Feuchtwanger thinks that a number of such natural phenomena may be able to upset any theory of the formation of the earth, unless based upon the fact that volcanoes form all terrestrial revulsions, and are indisputable evidences of internal heat. We know volcanoes, both extinct and active, bordering the Pacific from Fuega to the Arctic, through the Aleutian Archipelago to Asia, down the Asiatic coast through Kamschatka, Japan and the Phillipines, to New Guinea, New Hebrides and New Zealand. In Hawaii the volcanoes are nearly fourteen thousand feet high.

The fact that the precious metals have been discovered in volcanic regions, such as Mexico, California, and in all the South American States, and that in California we may travel for many miles over volcanic lavas, obsidian, which is sometimes called volcanic glass, the direct offspring from volcanoes, must bring to mind the relationship of gold. It was believed that marine shells and fossils were the effects and proofs of a general deluge, and must therefore have been deposited under water. By a fossil is meant any body, or the traces of one, whether animal or vegetable, which has been buried in the earth by natural causes. The remains of animals, particularly those of aquatic origin, are found almost everywhere imbedded in stratified rocks, and sometimes, as in limestone, they form the entire mass of deposits, like the encrinitic rocks of Medina limestone, N. Y. State, and the deposits of Tripoli,† and fossil shells, of forms which now abound in the sea, are met with far inland, both near the surface, and also at a great depth below and at all heights above the level of the ocean, at an elevation of nine thousand feet in the Alps, at thirteen thousand feet in the Andes, and above sixteen thousand feet in the Himalayas; and, according to Dr. Stevens, fossil shells have been found in North Carolina filled with pure gold. All this proves that the earth has undergone many great revolutions, and that both the volcanic and Neptunian actions have produced jointly the results which daily come under our observation, and other powerful agents, such as earthquakes, glacier currents, and other dynamical powers, have brought about the present state. The earthquakes, which are mostly the forerunners of great volcanic eruptions, and which often extend over vast areas of land, have been proved to be connected with the heat from the interior of the earth, and Sir Wm. Herschel imagined that the elementary matter of the earth must have been in a gaseous state, resembling the great phenomenon of nebula in the heavens, so fast that if concentrated they would form solid spheres. The glaciers, or ice streams, which are accumulations of ice descending by gravity along valleys from high elevations, may have also been active in revulsions of the earth, and upset whole countries by their force, as Agassiz recently stated in his lectures on the Amazon, that the flat topped hills which are found many hundred miles from the sea coast, are remarkable for the evidences of the glacial action which they display. From the gigantic terrestreal or land agencies we must turn to the ocean forces, the currents which exercise a powerful influence in the formation and existence of the globe. They are chiefly produced by winds, and extend over several thousand miles in length and nearly half as much in breadth, and are of great velocity and of great depth. With the ocean currents are also connected the tidal waves and currents, the wind waves, as also the earthquakes. The force of waves is so great that on the Scotch beach a block of gneiss, weighing forty-two tons, was moved five feet from its place at one time. We are also at a loss to determine when the most important periods or eras have taken place. If we judge from the period in which the Niagara falls have receded six miles from their original bed, and if we suppose that they receded at the rate of one inch annually, it would have required three hundred and eighty thousand years to perform it.

† In Tripoli and in Bohemia the deposits are almost entirely composed of infusoria. Prof. Tillman stated at a meeting of the Polytechnic, that in one cubic inch of certain polishing stones there are forty-eight thousand millions of these animals.

MARKET REVIEW.

FRIDAY EVENING.

Gold and Silver Stocks.—At the Mining Stock Board to-day, the following were the quotations:

	Offered.	Asked.
Alameda	4 00	5 25
American Flag	1 00	1 25
Atlantic and Pacific	2 50	3 50
Ayres' Mill and Mining	....	25 00
Bates & Baxter Gold	1 50	1 90
Benton Gold	1 05	1 10
Bobtail Gold	....	3 00
Bosebel Silver	2 25	2 50
Bullion Consolidated	....	3 00
Burroughs Gold	30	35
Church Union Gold	....	....
Central Gold	20	35
Crozier Gold	12	15
Columbian G. & S.	....	2 00
Consolidated Colorado	....	20
Consolidated Gregory	10 50	10 65
Corydon	7 45	7 70
Des Moines Gold	....	3 60
Downieville Gold	....	15
First National	....	....
Gilpin Gold	1 00	3 50
Gold Hill	4 60	4 65
Gunnell Gold	1 10	1 15
Gunnell Union	45	48
Grass Valley Gold	....	....
Holman	18	20
Hope Gold	50	75
Keystone Silver	7	8
Kipp & Buell Gold	50	75
Knickerbocker	....	....
La Crosse Gold	75	80
Liebig	50	75
Liberty Gold	7	10
Mill Creek Gold	9	15
Montana Gold	15	50
Manhattan Gold	....	....
New York	1 20	1 35
Nye Gold	8	9
Pah Ranagat Central Silver	....	3 00
Perry & People's Gold	....	....
People's Gold and Silver of California	1 85	2 00
Quartz Hill	3 70	4 80
Rocky Mountain Gold	1 10	1 40
Smith & Parmelee Gold	6 05	6 15
Texas Gold	18	30
Vanderburg	....	....
Yellow Jacket	....	50

The following were the sales at the first Board: Bosebel 400 shares at $2 25; Con'd Gregory 800 at $10 50@$10 70; Gunnell Union 300 at 48 c.; La Crosse Gold 200 at 75@80 c.; Holman Gold 2000 at 18c.; Corydon 1000 at $7 50@$7 60; Gold Hill 600 at $4 65; New York Gold 200 at $1 30; People's G. & S. 100 at $1 90; Quartz Hill 500 at $3 75.

At the second Board the sales were as follows: American Flag 900 shares at $1; Consolidated Gregory 800 shares at $10 60@10 65; Corydon 2300 at $7 50@8; Gold Hill 1300 at 4 65; Montana Gold 100 at 40c.; New York Gold 500 at $1 25@1 30; Quartz Hill, 600 at $3 80@4 00; Smith & Parmelee 200 at $6 00@6 10; Gunnell Gold 1000 at $1 10.

Copper Stocks—Are quoted as follows:

	OFFERED	ASKED
Caledonia	....	....
Canada	50	....
Charter Oak	1 00	1 10
Davidson	25	60
Evergreen Bluff	....	10 00
Hilton	1 00	....
Huron	....	26 00
Indiana	....	3 00

Lead Stocks have been active at the first Board to-day, 249,000 shares of Wallkill changed hands at 75@80c; Tudor 500 at $1 15.

Miscellaneous Stocks.—Rutland Marble held at $31.00; $2.25 was offered for Long Island Peat yesterday.

Petroleum Stocks.—The following were the quotations to-day:

	Offered.	Asked.
Bennehell Run	$3 15	$3 25
Bergen Oil & Coal	..	30
Buchanan Farm	20	25
Brooklyn	10	40
Central	1 05	1 20
Clinton Oil	1 25	1 75
Excelsior	..	15
First National	..	6
Manhattan	..	15
Mountain Oil	..	..
New York and Allegheny	4 25	5 00
New York and Newark	..	..
New York, Philadelphia & Baltimore	..	..
Pit Hole Creek	..	80
Rynd Farm	..	20
Shade River	2	5
United Pet. Farms	10	15
United States	3 00	4 00

200 shares of Petroleum Farms sold to-day at 10c.

Government Stocks.—The following were the prices to-day:

U. S. 6s, 1867	127 @ —
U. S. 6s, 1868, coupon	128 @ —
U. S. 6s, regular, 1881	107 @ —
U. S. 6s, coupons, 1881	107¼@107⅝
U. S. 5-20 regular, 1862	105½@106
U. S. 5-20 coupons, 1862	107½@107¾
U. S. 5-20 regular, 1864	105¾@ —
U. S. 5-20 coupons, 1864	105½@105⅝
U. S. 5-20 coupons, 1865	105⅝@105¾
U. S. 5-20 coupons, 1865, new	104¼@104⅜
U. S. 10-40 regular	99¾@ —
U. S. 10-40 coupon	99½@ 99¾
U. S. 7-30, 1st series	104⅛@104⅓
U. S. 7-30, 2d series	104⅛@104⅜
U. S. 7-30, 3d series	104⅛@104⅓

Foreign Exchange is dull and nominal. Bills at 60 days on London 107⅜@108⅜ for commercial; 108⅜@108¾ for bankers'; do. at short sight, 109⅜@109⅝; Paris at 60 days, 5 20@5.17½; do. at short sight, 5.17½@5.15; Antwerp, 5.20@5.18¾; Swiss, 5.20@5.18¾; Humburg, 36@36½; Amsterdam, 41¼@41½; Frankfort, 41@41⅛; Bremen, 78¼@78⅛; Prussian thalers, 72@72½. Gold was 135⅝ at 2 P.M.

Copper dull and nominal. Quotations at 27½@29. There is not much disposition to effect transfers of stocks on hand.

Iron very dull—an anticipated rise shortly. Wm. Osthout & Co., of Cliff street, report retail prices as follows: Swedish Iron, $162½@172½; common, $102½@107½; refined, $112½@117½; band, $142½; rods, 3-16 to ⅝, $117½@172½; scroll, ⅜@⅞, $142@190; horseshoe, $137½@145; hoop, ⅝ to 2, $147½@210; nail rod, 9½@10½c.; ovals, ½ to 1½, $137½@147½.

Steel pretty steady. Best English cast, 23; extra, 24½; blister, 17@19; German best, 15.

Tin dull. There is a large stock of Tin Plates. Buyers hold off until the tariff is finally determined. Tin Plates: $3 50@17 25.

Lead.—A similar dullness in Lead is perceptible this week. American, $10@10 25; German, $9 25@10 25.

Spelter.—We quote it as dull at $9@9 50.

Zinc.—Mussulman, 12@12½; American, 12@12½.

Quicksilver in lots worth 90c., in flasks 95c.

Petroleum is lower and dull. We quote crude at 19@19½c.; refined, in bond, 28½@32c.

THE SLATE TRADE.

NEW YORK, Feb. 2, 1867.

All who know anything about the Slate Trade agree upon one point, viz: that 1867 will prove a season of unusual activity and prosperity. Already in slate circles we begin to hear the hum of business and the canvassing of remunerative projects and speculations; and now that the trade has the JOURNAL OF MINING to represent its interests, a feeling of hopefulness and security is apparent in all.

Our quotations of the market in this city remain unchanged, and until the coming of Spring they will probably remain so, at which time they will doubtless rule much lower than at present. There is but little slate in this market, and producers, when they come here to make their contracts for the ensuing season, will find it a less supply than they anticipated. New York quotations may be given as follows:

Roofing Slate.

Vermont	purple,	1st	quality, per square*	$11 50@12 50
"	"	2d	"	10 50@11 50
"	green,	1st	"	12 00@13 50
"	"	2d	"	11 00@12 00
"	red,	1st	"	13 00@14 00
"	"	2d	"	12 00@13 00
Pa. bl'k & d'k blue,		1st	"	11 00@12 00
"	"	2d	"	10 00@11 00

PRICES DELIVERED.

				PER SQUARE.
CHICAGO.—Vermont purple and green		1st qual.		$14 50@15 50
"	"	"	2d "	13 50@14 50
"	red	"	1st "	15 50@16 50
"	"	"	2d "	14 50@15 50
"	Penn. black	"	1st "	16 00@17 00
"	"	"	2d "	15 00@16 00

BUFFALO.—$2 or $3 lower than Chicago.
CLEVELAND.—$1 higher than Buffalo.
CINCINNATI.—50 cents higher than Cleveland.
NEW ORLEANS.—$19@20 per square.
CHARLESTON, S. C.—$15@16 per square.
BOSTON, MASS.—About N. Y. quotations.

* The term "square" represents 100 superficial feet.

Monthly Report—January.

Preparations are being made for a larger production of Slate, for all purposes, this year than heretofore, yet we feel confident that the demand will be fully equal to the supply, while there are substantial reasons to induce large investments in good Slate property, as it will be sure to give a profitable return.

By "SILEX."

Roofing

Quantity used in the U. S. per annum about	250,000 squares.
" Manufactured " "	200,000 "
" Of American Slates now in Market	15,000 "

Ruling price at the Quarries during January, $7.50 to $8.00 per square. January productions small, sales light and weak, which may be expected at this season of the year.

School.

Consumption in the U. S. and Canadas per an. about	30,000 cases
Manufactured " " "	18,000 "
Number of cases on hand	3,000 "
Manufactured in January	800 "
Sales in January	500 "

Supply fully equal to the demand at fixed list prices—regulated by percentum discounts, which will net about $15 per case.

Billiard Beds.

Quantity used in the U. S. per annum about 3,000 set. Price of finished beds ready for the table $55.00 to $60.00 per set. Demand moderate with tendency to lower prices.

Mantel Stock.

Quantity manufactured and used in the U. S. per annum about 500,000 square feet. Price per square foot 35 to 40 cents. Sawed, planed and rubbed, and cut to pattern. Demand and supply constantly increasing.

Black Boards.

Demands increasing, which is promptly supplied at fair prices at 50 to 75 cents per square foot.

Cemetery Slabs.

Fair demand, at low prices, which is mostly supplied at Southern ports from Europe. Price, from 22 to 25 cts. per square foot.

Tiling

Supply in excess of the demand, but is growing in public favor.

Slate Tile will wear longer, and is less liable to slipperiness than any article in use. Price per square foot, finished ready for laying, 40 to 60 cts.

Bases for Lamps, &c.

These Bases are enameled and finished in jet. The demand and supply is rapidly increasing, with prices remunerative to the manufacturer and satisfactory to the buyer.

Washtubs and Sinks

Are coming into use, with a supply equal to the demand. Slate is admirably adapted to these purposes, and will soon become an important branch of the Slate business.

Refrigerators.

Slate for refrigerators and meat boxes for hotels and restaurants, is coming into use with great favor, and will soon require considerable quantities of Slate to meet the demands of the community.

THE COAL TRADE.

FRIDAY EVENING, Feb. 1, 1867.

Considerable activity manifested itself in the retail trade during the past week. The advanced prices which Coal brought at the sale on Wednesday last evidently satisfied many that Coal had reached its lowest point. Dealers should work to reduce their stotks on hand, even though it be at a slight discount, in order that trade may open more favorably in spring, and fair prices be obtained through the season. In wholesale we have little to chronicle. Up to Wednesday there was no trade attempted, dealers awaiting anxiously, and speculating upon the course prices would take at the sale.

A second meeting of those interested in organizing a new Coal Exchange in this city, was held Jan. 24. A Constitution and Bylaws was adopted, and other business relative to organization transacted. Twenty-five of the leading firms have signified their willingness to join the association, and a committee was appointed to solicit others. A meeting of the New York Coal Exchange will be held at an early day.

AUCTION SALE OF COAL

By the Delaware, Lackawanna and Western RR. Company, held January 30, 1867.

30,000.

LUMP, 6,000 TONS.

1,930 tons at	$4 00	2,600 tons at	$4 20
1,500 "	4 15		

STEAMBOAT, 4,000 TONS.

900 tons at	$5 35	200 tons at	$5 45
2,200 "	5 40	700 "	5 50

GRATE, 5,000 TONS.

1,000 tons at	$5 75	1,000 tons at	$5 95
1,000 "	5 80	1,000 "	6 10
1,000 "	5 85		

EGG, 5,000 TONS.

4,100 tons at	$5 25	200 tons at	$5 35
700 "	5 30		

STOVE, 7,000 TONS.

5,100 tons at	$5 75	700 tons at	$5 85
1,400 "	5 80	1,800 "	5 87½

CHESTNUT, 3,000 TONS.

1,900 tons at	$4 45	400 tons at	$4 65
900 "	4 55	100 "	4 77½
600 "	4 60		

There was a fair attendance, and the business was quite spirited; the average advance was 37½c. per ton.

Comparing this sale with that of January 3, 1867, we have the following:

	Jan. 3, 1867.	Jan. 30, 1867.
Lump	$3 75@$3 95	$4 00@$4 20
Steamboat	4 62@ 4 87	5 35@ 5 50
Grate	5 12@ 5 60	5 75@ 6 10
Egg	5 15@ 5 20	5 25@ 5 35
Stove	5 55@ 5 60	5 75@ 5 87
Chestnut	4 30@ 4 35	4 45@ 4 77½

Reports of the Coal Traffic for the Last Week

as compared with those of the corresponding week last year, are as follows:

	1866. WEEK.	1866. TOTAL.	1867. WEEK.	1867. TOTAL.	1867. DECR'SE.
Phil. & Reading R.R.	....	361,742	49,795	242,415	119,327
Schuylkill Canal	.....	.....	.....	.....	.....
Lehigh Val. R. R.	27,100	198,985	18,930	115,486	83,499
Lehigh Canal	.....	.....	.....	.....	.....
Del & Hudson	.....	.....	.....	.....	.....
Scranton North	7,440	25,400	5,382	20,930	4,470
Scranton South	13,535	48,867	17,607	67,580	18,713
Penn'a. Coal Co. Rail	.....	11,793	7,394	29,996	18,202
by Canal	.....	.....	.....	.....	.....
Wyoming North	.....	.....	.....	.....	.....
Wyoming South	.....	.....	.....	.....	.....
Shamokin	.....	17,149	5,476	16,699	449
Trevorton	.....	.....	820	1,475	.....
Short Mountain	.....	.....	287	1,553	1,553
Franklin	.....	.....	.....	.....	.....
Broad Top	.....	9,676	3,026	10,029	433
Total week 1867	.....	673,632	108,717	506,163	.....
Corresp'ng time 1866	.....	506,163	.....	.....	.....
Decrease	.....	157,469	.....	.....	.....

Lehigh and Mahanoy Coal Trade,

For week ending January 26, 1867.

NAMES OF SHIPPERS.	WEEK	TOTAL.
Trenton Coal Co	31 18	277 12
Mount Etna	.....	43 04
Mahanoy Coal Co	.....	.....
Delano Colliery	1,290 06	5,642 14
Glendon Coal Co.	.....	131 14
Rathburn, Stearns & Co	529 09	2,644 12
E. S. Silliman	.....	13,354 01
McNeal Coal & Iron Co	889 17	1,264 06
Knickerbocker Coal Co	784 07	2,837 13
Thomas Coal Co	114 09	1,234 05
Williams & Herring	304 06	996 17
Other shippers	.....	10 02
Total	3,944 12	28,457 00
Corresponding week last year	5,114 16	24,209 09
Increase	.....	4,227 11
Decrease	1,170 04	.....

Schuylkill Coal Trade.

BY RAILROAD, FOR WEEK ENDING JANUARY 31, 1867.

St. Clair	.....
Port Carbon	7,124
Pottsville	33
Schuylkill Haven	16,461
Auburn	1,445
Port Clinton	20,833
Total for week	45,896
Previously this year	182,342
Total	228,238

Report of Coal

Transported over the Lehigh Valley Railroad, Week ending Saturday, January 26, 1867.

Where Shipped from.	Week. Tons. cwt.	Previously. Tons. cwt.	Total. Tons. cwt
MAHANOY REGION.			
Trenton Coal Company	31 18	245 09	277 07
Mount Etna Coal Company	....	58 07	58 07
Mahanoy	.....	.....	.....
Delano	1,319 17	4,087 15	5,407 12
Glendon Coal Company	.....	131 14	131 14
Rathbun, Stearns & Co	409 19	2,233 17	2,643 16
E. S. Silliman	.....	13,207 09	13,207 09
McNeal Company	433 10	651 03	1,084 13
Knickerbocker	687 17	1,813 12	2,501 09
Thomas Coal Co	151 08	1,259 12	1,411 00
Williams & Herring	256 19	665 13	922 12
New Boston C. Co	....	....	....
Shamokin Coal Company	....	....	....
East Boston C. Co	10 00	495 14	505 14
Other shippers	....	85 02	85 02
Total Mahanoy	3,301 08	24,935 07	28,236 15
WYOMING REGION.			
Baltimore Coal Company	1,342 03	6,515 18	7,858 01
Franklin Coal Company	428 04	264 16	693 00
Audenreid	135 00	498 04	633 04
Lehigh & Susquehannah	587 13	893 06	1,480 19
Germana Company	478 18	1,996 18	2,475 16
Wilkesbarre Coal and Iron Co	1,705 15	4,256 05	5,962 00
Warrior Run	234 02	719 07	953 09
Parish & Thomas	1,096 17	4,758 11	5,855 08
New Jersey	413 15	1,733 07	2,147 02
Union	454 03	839 09	1,293 12
Wyoming Coal & Trans. Co.	698 04	3,905 15	4,603 19
New Port C. Co	.....	.....	.....
Morris and Essex Mutual	176 12	1,167 13	1,344 05
Consumers	....	....	....
Everhart C. Co	....	....	....
Plymouth C. Co	....	....	....
Hillman & Son	222 07	961 05	1,183 12
Other Shippers	.....	.....	.....
Total Wyoming	7,973 13	28,510 14	36,484 07
HAZLETON REGION.			
Central Coal Company	....	....	....
Ashburton Coal Company	....	....	....
Mount Pleasant	....	284 13	284 13
Hazleton	....	1,625 18	1,625 18
East Sugar Loaf	270 05	581 10	851 05
Woodside Company	....	....	....
A. Pardee, Jr., Bro. & Co	....	....	....
Stout Coal Company	....	548 10	548 10
Harleigh	....	415 18	415 18
Ebervale Coal Company	....	1,630 01	1,630 01
Jeddo (G. B. M. & Co.)	....	2,175 14	2,175 14
Jeddo C. Co	....	....	....
Highland Coal Company	....	....	....
Cross Creek	....	920 18	920 18
Council Ridge	....	2,755 05	2,755 05
Buck Mountain	....	603 02	603 02
Other Shippers	....	....	....
Total Hazleton	270 05	11,549 19	11,820 04
B. M. REGION.			
New York & Lehigh	2,081 07	8,727 03	10,808 10
Honey Brook Coal Company	2,148 01	11,899 04	14,047 05
Ger Pa Coal Company	700 09	3,601 02	4,301 11
Spring Mountain	928 13	863 05	1,791 18
Coleraine	1,526 09	5,778 07	7,304 16
B. Meadow, (D. W.)	....	58 06	58 06
John Connery	....	600 02	600 02
Lehigh Zinc Company	....	....	....
Other Shippers	....	33 00	33 00
Total B. M. Region	7 384 19	31,560 09	38,945 08
Total Hazleton	270 05	11,549 19	11,820 04
Total Wyoming	7,973 13	28,510 14	36,484 07
Total Mahanoy	3,301 08	24,935 07	28,236 15
Total	18,930 05	96,556 08	115,486 14
Cor. week last year	27,100 09	171,885 09	198,985 17
Increase	.....	.....	.....
Decrease	8,170 04	75,328 19	83,499 03
Coal delivered at M. Chunk and forwarded by rail	18,930 05	96,556 09	115,486 14
Coal delivered on line of P. Haven and W. Haven R.R	4 17	70 06	75 03
At Junction, for shipment by canal	....	84 08	84 08
At Mauca Chunk	....	5 00	5 00
At Mauch Chunk for shipment by canal	....	....	....
Grand Total	18,935 02	96,716 03	115,651 05
Cor. week last year	27,100 09	171,885 08	198,985 17
Increase	.....	.....	.....
Decrease	8,165 07	75,169 05	83,334 12

Prices of Coal by the Cargo.

[CORRECTED WEEKLY.]

At New York, Feb. 2, 1867.

Schuylkill Red Ash by Boat Load	$7 00@$7 50	
" Chestnut, " "	4 50	5 25
" White Ash Lump	6 25	6 75
" Steamboat	6 25	6 75
" Broken	6 25	7 00
" Egg	6 52	7 00
" Stove	6 50	7 00
" Chestnut	4 75	5 50
Lehigh White Ash Lump	6 50	7 00
" Broken	6 50	....
" Egg	6 25	....
" Stove	6 75	....
" Chestnut	5 50	....
Western Virginia Gas Coal	10 00	....
Westmoreland Gas Coal	10 00	..
Blossburg & Fall Creek	7 25	7 40

At Philadelphia, Feb. 2, 1867.

Schuylkill Red Ash Prepared	$5 50@$6 00
" Chestnut	4 00 .. ..
" White Ash Lump and Steamboat	5 00 .. ..
" Broken	5 00 .. ..
" Egg and Stove	5 25 .. ..
" Chestnut	4 00 .. ..
Locust Mt. Lump, and Steamboat	5 25 .. ..
" Broken	5 25 .. ..
" Prepared	5 50 .. ..
" Chestnut	4 25 .. ..
Lorberry Coal	5 75 .. ..
Shamokin	5 75 .. ..
Franklin, (Lykens Valley)	6 25 .. ..
Broad Top	5 50 .. ..

Scranton Coal at Elizabethport, Feb. 2, 1867.

Lump	$4 50@— —
Steamer	5 25 — —
Grate	5 75 — —
Egg	5 75 — —
Stove	6 00 — —
Chestnut	4 50 — —

Prices for Pittston Coal at New York, Feb. 2, 1867.

Lump, per ton of 2240 lbs	$6 25 .. ..
Steamer, " " "	6 35 .. ..
Grate " " "	6 40 .. ..
Egg " " "	6 50 .. ..
Stove " " "	6 75 .. ..
Chestnut " "	5 50 .. ..

Lehigh Coal at Elizabethport, Feb. 2, 1867.

Lump	6 75@$7 00
Steamboat and Broken	6 50 — —
Egg	6 50 — —
Chestnut	5 50 6 00
Stove	7 00

George's Creek and Cumberland Coal.

Run of mine, f. o. b. at Locust Point	$5 75@.. ..
At Georgetown	5 50 .. ..

At Baltimore Feb. 2, 1867.

Wilkesbarre & Pittston W. A., wholesale	$7 50@$7 75
" " " retail	8 25 8 50
Lykens Valley & Sunbury R. A., wholesale	7 50 7 75
" " " retail	8 25 8 50

Duty Bituminous $1.25. Other kinds 40 cents per ton

(From the Mercantile Gazette.)

At San Francisco, Jan. 1, 1867.

Australian	$....@ 9 50
Do Wallsend	.... 10 00
Pittston, ton	17 00 .. ..
Lehigh	18 00 .. ..
Cumberland, cks	.... 25 00
do bulk	22 00 .. ..
Scranton	17 00 18 00
Liverpool	.. .. ..
Scotch	.. .. ..
West Hartly	12 00 .. ..
Vancouver Island	11 00 .. ..
Bellingham Bay	10 00 .. ..
California	6 00 8 00

Prices of Foreign Coals.

[REPORTED FOR THE JOURNAL OF MINING.]

[BY H. L. PARMELE & BRO., 32 Pine street, N. Y.

Duty $1.25 per ton.

Liverpool Gas Caking	$11 00
" " Cannel	16 00
" House "	19 00
" " Orrel	16 00

Per ton 2240 lbs.

PRICES FROM YARD:

Liverpool Orrell, screened	20 00
" Cannel, "	22 00

per ton 2000 lbs. delivered.

Prices of Provincial Coals.

[REPORTED FOR THE JOURNAL OF MINING.]

BY LOUIS J. BELLONI, JR., 43 Pine street, N. Y.

Duty $1.25 per ton.

Block House (on board)	....	$1 75 gold
Gownie	"	1 75 "
Lingan	"	1 75 "
Sidney	"	2 25 "
Pictou	"	2 25 "
Glace Bay	"	1 75 "
International Co.'s	"	1 75 "
Slack Coal	"	75 "

Coal Freights.

From Elizabethport.

Albany	$1 00@— —	New London	1 30@— —
Boston	2 00 — —	Newport	1 50 — —
Bridgeport	1 20 — —	New York	70 — —
Fall River	1 50 — —	Norwalk	1 20 — —
Hartford	1 75 — —	Norwich	1 40 — —
Hudson	1 00 — —	Pawtucket	1 75 — —
Lynn	— — — —	Portland	2 00 — —
Middletown	1 50 — —	Portsmouth	2 15 — —
New Bedford	1 50 — —	Providence	1 50 — —
Newburyport	2 25 — —	Salem	2 00 — —
New Haven	1 20 — —	Taunton	1 40 — —

From Baltimore.

To Philadelphia	$2 50@— —	Boston	3 75@— —
New York	3 25 — —		

From Georgetown or Alexandria.

To Philadelphia	$2 50 — —	Boston	3 50 3 75
New York	3 25 3 50		

By Railroad.

Transportation from Schuylkill Haven to Ft. Richmond	$2 25
Freight from Ft. Richmond to New York	1 60
Total	$3 85

From Port Carbon 8 cents per ton more.

Freights on Coal to Elizabethport.

L. V. R. R. from Mauch Chunk to Easton	$1 15
C. R. R. of N. J., Easton to Elizabethport	1 66
	2 85
Shipping expenses at Elizabethport	30
Total	$3 11

Provincial Freights.

Sydney to N. Y.	$4 50
Lingan	4 50
Cow Bay	4 50
Big Glace Bay	4 50
Little "	4 25

Foreign Freights.

New Castle and Ports on Tyne	19£@ keel.
Liverpool	15s.@ 20s

WEEKLY COAL TRADE CIRCULAR.

NEW YORK, February 1st, 1867.

The coal trade remains inactive at wholesale. A moderate demand exists for the larger sizes, but for egg and stove there is but little inquiry. The Scranton auction of Wednesday last developed an average advance of 27 cents per ton over the rates current at previous sale. This result was occasioned by the fact that, pending the ice blockade, Eastport is the only "shipping point" that can be relied upon for present supplies, and those who are in want for early delivery buy from that port, which can be relied upon—even at an advance in price over rates current at other points—which, at present writing, are "ice bound." The market will remain undisturbed till Feb. 13, when the Pittston Co. hold the great sale of 150 to 200,000 tons, which must necessarily, if it takes place, have a decided influence upon the trade. P.

BOSTON STOCK MARKET.

(By Telegraph.)

BOSTON, Feb. 1, 1867.

Canada	60c.	Minnesota	11
Copper Falls	52⅜	Quincy	32¼
Franklin	43½	Cary Improvement	10
Hancock	9¼	Water Power	26
Huron	32½	Central	..
Isle Royal	11	Bay State	..

SALES, JANUARY 31.

100 shs	Water P'r	25⅜	100 shs	Petherick	2¼
5 do	do	25	100 do	Canada	60
200 do	do	25⅛	15 do	Franklin	35
200 do	do	25⅜	100 do	Huron	30⅛
110 do	do	26	181 do	do	31
100 do	do s.30	25¾	100 do	do b.30	32
300 do	do b.30	26	50 do	do	30¾
100 do	do	25⅝	150 do	St. Clair	4
200 do	Cary Imp	9⅜	100 do	Toltec	1⅛
100 do	Alouez M	8¾	SECOND CALL.		
650 do	do b.30	9	100 do	Seneca	5
258 do	do	8½	25 do	Cary Imp	9⅛
25 do	do	8⅛	200 do	do	9⅛
150 do	do b.30	8¾	50 do	Allouez	8¾
1 do	Cop Falls	50	50 do	do	8⅝
200 do	do	51	50 do	Cop Fs	51
100 do	do	50¾	50 do	Pewabic	22
100 do	do	50½	100 do	Huron	30¼

Mineral and other On-dits.

☞ In 1865 the State of Maine produced 84 tons of pig iron; New Hampshire, 474 tons; Massachusetts, 10,851 tons; Connecticut, 9,278 tons; New York, 86,608 tons; New Jersey, 23,481 tons; Pennsylvania, 405,473 tons; Maryland, 20,139 tons; Western Virginia, 296 tons; Vermont, 1,974 tons; Kentucky, 21,032 tons; Tennessee, 423 tons; Ohio, 76,659 tons; Illinois, 100 tons; Michigan, 13,393 tons; Wisconsin, 1,184 tons; Minnesota, 4 tons, and Missouri, 8734 tons. Pennsylvania thus produced considerably more pig iron last year than the other States of the Union all put together.

☞ An improved double machine-puddling furnace, the invention of Mr. J. Griffiths, of Sheepbridge, near Chesterfield, says the *Ironmonger*, has just been set to work at the Northfield Ironworks, Rotherdam. The first two heats were made in three hours, ten minutes, with fourteen cwt. of coal. Charge: Pig iron, 1 ton 2 cwt., long weight; puddled bar produced, 1 ton 11 lbs. The bars produced were considered to be superior to those made by hand with the same material, being much more fibrous.

☞ A cubic yard of gold is worth, in round numbers, $10,000,000, and at this estimate all the gold in the world, if melted into ingots, might be contained in a cellar twenty-four feet square and sixteen feet high. All the boasted wealth already obtained from California and Australia would go into an iron safe nine feet square and nine feet high.

☞ The most celebrated silver mine in Europe is that of Konigsberg, in Norway, which is 180 fathoms deep. In the Museum of Natural History at Copenhagen, an enormous mass of native silver is on exhibition, taken from this mine, which measures six feet in length, two feet in width, and eight inches thick, and is estimated to contain five hundred pounds of pure silver.

☞ The Salt Lake *Vidette* contradicts the report of the murder by Indians of a party of New Mexican miners who were out prospecting. The missing party have returned to the settlement to report rich deposits of gold as having been discovered by them.

☞ An oil well in Uniontown, Pennsylvania, one day last week suddenly began to throw up stones and water to the height of more than one hundred feet. The phenomenon continued for more than an hour.

☞ Borax was discovered in California in 1856, and since that time but one company has been formed for its production. About two tons of crude crystal are produced daily.

☞ The total production of the fine copper in the world is at present 90,000 tons per annum, of which more than 48,000 tons are exported from Chili.

All Sorts.

☞ Never attempt to strike the guilty where, by a misdirected or too hasty blow, the innocent, the gallant, and the good may suffer. Never attempt to expose a villain, if your efforts in so doing are likely to injure the unsuspecting dupes of his artifice. Never wager more than you carry in your pocket. Never shake hands with a man if you are not glad to see him. Never forget, when you meet, to recognize your friends, and be even more careful to offer your salutation to those who are poor. Never run extravagantly into debt, for it is the by-path which leads to moral destruction. Never quarrel without sufficient cause, but if it be necessary that you take up a quarrel, then see that you quarrel firmly to the end. Never betray the confidence of any one, especially a woman.

☞ The greatest cave in the world is in Kentucky; the greatest river and the largest valley in the world are the Mississippi river and valley; the largest inland sea of the world is Lake Superior; the greatest mass of solid iron is the iron mountain of Missouri; the Falls of Niagara is the greatest cataract in the world; Chicago is the largest grain port and lumber market; New York has the largest aqueduct in the world, while Pennsylvania contains the largest deposits of anthracite, and Illinois the greatest extent of bituminous coal fields in the known world.

☞ There are four Pontifical tiaras or triple crowns. One, the gift of Napoleon I. to Pius VII., weighs 8 lbs. avoirdupois, and is worth £10,000 sterling; the second, dating from the Pontificate of Gregory XVI., and worth only £400; the third, presented by the Palatine Guard to Pio Nono, and estimated at a value of £900; the fourth, the grandest and richest of all, being a present made to the Pope in 1854 by Queen Isabella of Spain, and valued at 535,000 francs, or over £21,000 English. It contains no fewer than eighteen thousand diamonds.

☞ A method of applying petroleum as fuel for locomotives has been patented by a Mr. Gartshore, of Dundas, C. W. It is rumored that the Great Western railroad propose to try it. The new arrangement for burning peat in locomotives has been adopted by that company, which has entered into a contract for considerable quantities of the fuel.

☞ The bed used by Richard III., on the eve of the battle of Bosworth, is carefully housed at Beaumanor Park, Leicestershire, where a room has been specially fitted, armorially decorated, and appropriated to its preservation, under the name of King Richard's bedroom.

☞ Mrs. Partington expresses her apprehensions that the people of the gold regions will bleed to death, as the papers are constantly announcing the opening of another vein.

☞ One drop of the oil of bitter almonds will communicate an agreeable taste and smell to one ounce of commercial castor oil, and will not affect its medical properties.

☞ Sweden and Norway are slowly rising out of the sea at the rate of one-half of an inch per annum. The west coast of Greenland is gradually sinking.

☞ Mental pleasures never cloy; unlike those of the body, they are increased by repetition, approved of by reflection, and strengthened by enjoyment.

SPECIAL NOTICES.

☞ Prof. Silliman goes to California per steamer of the 11th inst. See card in our advertising columns.

☞ E. G. Sheppard, No. 2 Bowling Green, this city, advertises in another column a Gold Mine for sale. It is situated in Grass Valley, Nevada county, Cal., adjoining the famous Eureka Mine, and hence, if it contains the "extension" of the Eureka Lode, capitalists would do well to purchase and work the property. The owner says that "the mines have been tested, are already partially developed, and have ore enough now out to work a 10 stamp mill for 5 months;" that if one or more capitalists will join in the purchase and stocking of the mine, it can be made to pay, 50 per cent. per annum in gold, on the investment.

☞ Messrs. Campbell & Hardick Bros., proprietors of the Niagara Steam Pump Works, No. 9 Adams street, Brooklyn, N. Y., assure us that the demand for Hardick's Double-Acting Steam Pump for mining and other purposes continues unabated, and that they are in receipt of testimonials from parties using them that they give every satisfaction. We have no hesitancy in recommending this Pump to the attention of the public—would suggest that they address Messrs. C. & H. Bro's for their illustrated circular.

☞ H. R. Worthington, proprietor of the Hydraulic Works, Brooklyn, has long been favorably known as the manufacturer of superior Air, Water and Vacuum Pumps, Blowing Engines, Oil Meters, Water Pressure Engines, etc. Superior stamp mills for gold, silver and copper ore are made under the eye of Mr. Hynes, who has had practical experience in building machinery of this class for many years. Eaton's Patent Amalgamators are also made here. A descriptive circular will be sent on application. Address, as above, 61 Beekman street, N. Y.

☞ The New York *Era*, which has been gradually growing in public favor for the past six years, continues to improve. Besides the usual features of weekly papers, it contains departments touching Free Masonry, Odd Fellowship, Education and other matters. It is published at No. 9 Spruce street, at five cents per copy.

Pleasant Allusions.

[From the "Southeast Missouri Enterprise," Jan. 12, 1867.]

We have received two numbers of a mineralogical journal in New York, edited by George Francis Dawson, Esq. Its title is "AMERICAN JOURNAL OF MINING," and it is the best and most reliable reporter of the mining interests of the United States in the world. Persons living in this section, where all the minerals of the country are found in paying quantities, should not fail to have a number of this valuable paper. Issued every Saturday.

[From the Helena (Montana) "Herald," Dec. 27, 1867.]

The AMERICAN JOURNAL OF MINING," published by Western & Co., No 37 Park Row, New York city, is one of the most valuable papers of its class on our exchange list. The price of subscription is only $4 per annum.

[From the Pottsville (Pa.) "Standard," Jan. 26, 1867.]

The AMERICAN JOURNAL OF MINING is the title of an excellent sixteen page weekly, edited by Geo. Francis Dawson, 37 Park Row, New York. The articles are scientific and practical, and contain much valuable information to those connected with mining interests. Terms, $4 per year. Address JOURNAL OF MINING, 37 Park Row, New York.

[From the Lebanon (Mo.) "Advocate," Jan. 23, 1867.

We have received several communications from parties engaged in mining, inquiring for mineralogical journals. Not having time to answer all these questions separately, we take this method of informing them, as well as the public generally, that such a journal is edited by George F. Dawson, Esq., in New York city. Its title is "AMERICAN JOURNAL OF MINING, and it is the best and most reliable reporter of the mining interests of the United States in the world. Persons living in this section of Missouri, where nearly all minerals are found in paying quantities, should obtain and study this valuable paper. It is published weekly, at the low price of $4 per annum.

LYONS' PEAT MACHINE.—Owners of Peat Land, and others interested in the manufacture of Peat Fuel, are invited to examine this Automatic Machine, at the works of L. E. OSBORN & CO., 16 and 18 Artizan street, New Haven, Ct. Parties can see it running by giving a day's notice.

For further particulars address
LYON'S PEAT MACHINE COMPANY.
19:2:10t Litchfield, Conn.

ASBURY
IRON MINING AND MANUFACTURING CO.

This company is ready to supply Furnaces with the best magnetic oxyde, yielding by analysis from 65-70, and 600 tons have been delivered to the most extensive Blast Furnace in New Jersey with entire satisfaction. The monthly product of about 500 tons is offered for sale, deliverable at Asbury Station cars, on the Central R.R. of N. J., 12 miles from Easton, Pa. Contracts for one year will be entered by
LEWIS FEUCHTWANGER.

Samples may be seen at the President's office, 55 Cedar street, New York. 19:x

TO CONTRACTORS AND MINERS

The Commissioners on the Troy and Greenfield Railroad and Hoosac Tunnel, acting for the State of Massachusetts, invite Proposals, until the tenth day of March next, for Excavating said Tunnel at three different sections of that work.

This Tunnel, when completed, will be about 4 2-3 miles in length, extending from the Town of Florida, through the Hoosac Mountain, to the Town of North Adams.

The Eastern End has been penetrated from the grade of the Railroad 3500 feet, 2400 feet of which consist of an opening of about 10 cubic yards to each lineal foot, the same to be enlarged to a section containing about 17 cubic yards to each foot; the remaining 1100 feet being heading, now measuring upon an average 4 cubic yards per running foot, to be enlarged to the full section: making some 35,000 cubic yards to be removed.

A further section of the work will also be let to the successful bidder for the above-named enlargement, if satisfactory terms shall be offered.

The West rn End is worked from a shaft 318 feet deep. The easterly heading from this shaft—of about 6 cubic yards to each lineal foot—extends 1100 feet, and is to be enlarged to a section containing 17 yards per foot, requiring the removal of 12,000 cubic yards. Bids for that amount, and for an extension in either direction of the heading and enlargement at this point, will be received.

The Central Shaft, of an elliptical form, 27 by 15 feet, now 400 feet in depth, is to be sunk to grade, 1030 feet from the surface, requiring the removal of about 9000 cubic yards.

All the work to be done is in Talcose Slate, and will require neither masonry nor supports of any kind.

Buildings, machinery, and means of ventilation, all of the most substantial character, have been provided, and will be furnished to contractors.

Ample sureties will be required from parties who may be contracted with, and the Commissioners reserve the right to reject all offers that may be made.

Plans and specifications may be seen on application to ALVAH CROCKER, at the Engineer's Office, North Adams, Mass.; and other information may be obtained from JAMES M. SHUTE, Room 10, No. 13 Exchange street, Boston, to whom proposals may be directed.

JAMES M. SHUTE,
ALVAH CROCKER,
CHARLES HUIDSON.
BOSTON, January 30, 1867. (19:i) Commissioners.

GOLD MINE.

TO CAPITALISTS.

AN OPPORTUNITY IS NOW OFFERED FOR ONE OR MORE capitalists to join in the purchase and stocking of one of the

Richest and Most Valuable Properties in Grass Valley, Nevada County, California, adjoining the well known

EUREKA MINE,

which has paid $20,000 to $50,000 per month the past year.

The Mines have been tested, are already partially developed, and have ore enough now to work a 10-stamp mill for five months. A similar property, and near this, sold last June for $400,000 (gold), though no richer than this. I am prepared to put this property in a Stock Company on liberal terms, for the sake of procuring funds necessary to erect roasting and pumping works and mill.

It is a first-class Mining Property, title perfect, will bear the fullest investigation, and can be made to pay fifty per cent. in gold on the investment per annum.

For further particulars call on or address
E. G. SHEPPARD,
No. 2 Bowling Green, New York.
☞ P. O. Box 4,083. 19:2:ps

JOHN WATERS,

GOLD AND SILVER REFINER

AND

ASSAYER,

ESTABLISHED 1839,

No. 57 VESEY STREET, NEW YORK.

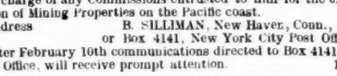
ANALYSES MADE OF ORES, MINERALS, ETC., BY FIRE.

Lead and Copper Ores a Specialty.

Miners are Assured of Careful and Accurate Assays.

Gold Dust and Bars Purchased. 19:2:i

ARTIFICIAL LEGS AND ARMS.



ESTABLISHED 27 YEARS.

Send for Pamphlet. WM. SELPHO & SON,
19:p. 516 Broadway, N. Y.

NOTICE.

PROFESSOR BENJAMIN SILLIMAN, intending to leave for California by the Steamer of Feb. 11th, will take charge of any Commissions entrusted to him for the examination of Mining Properties on the Pacific coast.

Address B. SILLIMAN, New Haven, Conn., or Box 4141, New York City Post Office.

After February 10th communications directed to Box 4141 N.Y. Post Office, will receive prompt attention. 19:x

MADOC GOLD REGIONS.

12,153 ACRES OF LAND FOR SALE in the Madoc Gold Regions of Canada West.

Apply to the Proprietor, T. D. LEDYARD,
4:2p 74 Yonge Street, Toronto.

WATER-WHEELS.—Warren's American Turbine is acknowledged the best finished, the simplest constructed, and the greatest Water-saving Wheel in the Market. Also Warren's Improved Turbine Regulator is not surpassed for giving uniform speed. Address,

ALONZO WARREN,
Agent American Water Wheel Co.
No. 31 Exchange street,
19:v2xm Boston, Mass.

NORTH STAR
GOLD AND SILVER MINING CO.,
No. 88 Washington Street, Chicago.

Capital Stock, $500,000.
SHARES $50 EACH.

LEONARD G. CALKINS, President,
H. C. BALLARD, Secretary and Treasurer.
GEORGE R. MITCHELL, Mining Superintendent
BOARD OF DIRECTORS.
CALEB CALKINS, Peterboro' N. Y.
J. S. HOWELL, Chicago.
SAMUEL H. GILBERT, Agent St. Louis Mutual Life Insurance Co., Chicago.
LEONARD G. CALKINS, Chicago.
H. C. BALLARD, Chicago.
R. MARTELLE CLARKE, Chicago.

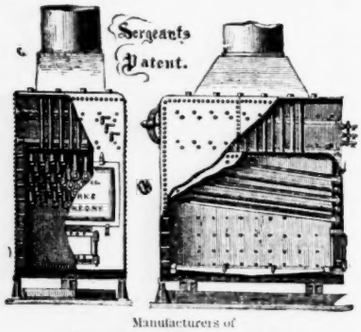
The property of this Company consists of 310 feet of the famous Illinois Lode on Quartz Hill, near central City, Colorado, in the most popular, the richest and best developed gold bearing quartz belt of territory on the continent, and probably the richest in the world. On the property in question is a mill 60x80 feet, with an 18 horse power engine, 12 stamps, and all the necessary hoisting-gear, belting and other machinery to work the mine. There are five shafts already sunk on the property, the deepest one being 130 feet, which is of ample capacity to work the entire vein. The property is of the same grade or class as the Gregory, Bates, Robtail and Blackhawk mines, nearly contiguous to our mill. The Company also own 1,500 feet of valuable property on the Partnership Lode, within a short distance of our mill, and near Central City, which, when fully developed, may be found as rich in gold deposits as the Illinois Lode. Capitalists and others seeking safe and profitable investments will readily appreciate the value of WELL-DEVELOPED MINING PROPERTY, in comparison with that of other new companies which have as yet no mill and scarcely any development of their mines.

Our stock is full paid, not liable to further assessments. Mr. Mitchell, our Superintendent, has been engaged in practical mining for the past six or seven years in the immediate vicinity of our mill, and for a year or two past has had charge of the works of two Eastern companies on the Alps and Grenada lodes as Superintendent. Our company is fortunate in having secured his valuable services and practical knowledge to demonstrate the value of our stock as a source of revenue to the holder, and we expect at an early day it will stand on the stock board as equal to that of the best old or new companies now organized.

There will be a surplus working capital of $80,000 to be used to secure the best process for extracting gold and increase the products of the mine for the benefit of our stockholders; and we are sure that no better paying investment can be found. Every mile of the Pacific Railroad extended westward toward Denver City (but 40 miles from our mill) will increase the value of our mine and reduce the expense of mining.

Books for subscriptions to stock are now open at the office of the Company, at No. 88 Washington street, Chicago. 18:8

FRANK B. POLLEY & CO.,
STEAM BOILER WORKS,
Office, 279 FIRST STREET, Brooklyn, E. D.



Manufacturers of
Sergeant's Patent Boilers,
also of all kinds of Steam Engines and Boilers. High & Low Pressure Boilers, Tanks, Filters, Kettles, Curbs, Oil Stills, &c.
New and Second Handed Boilers constantly on hand.
F. B. POLLEY, THOS. ACKERMAN, HENRY VOGT.
Send for circular.

W. D. ANDREWS & BRO.,
414 WATER STREET, NEW YORK,
Manufacturers of Andrews' Patent
Oscillating Engines,
CENTRIFUGAL PUMPS, AND TUBULAR BOILERS.

Our ENGINES occupy little room, are light, simple, cheap, and economical, require no special foundation or balance-wheel pit, and can be run from **150** to **500** revolutions per minute with Safety. Sizes from **1-2** Horse to **250** Horse-Power.

Our CENTRIFUGAL PUMPS pass mud, sand, coal, corn, gravel, etc., without injury, and use little power. Sizes from **90** Gallons to **40,000** Gallons per minute capacity. For sewers, canals, coffer dams, condensers, irrigation, and wrecking, they are unequaled.

Our BOILERS are light, strong, and portable, are economical of fuel, burn Wood, Hard or Soft Coal, and CONSUME THE SMOKE. Sizes from **2** to **50** Horse-Power.

Awarded First Premiums at the recent Fair of the American stitute—a gold medal to each.

Portables from **2** to **20** Horse-Power. Send for descriptive pamphlets and price-lists. 31-a

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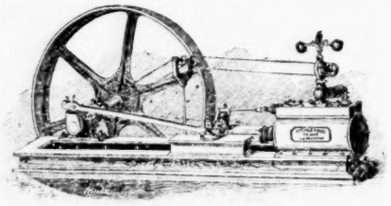

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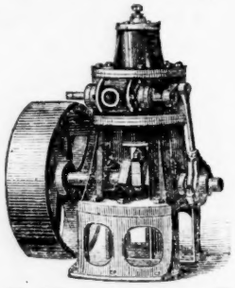

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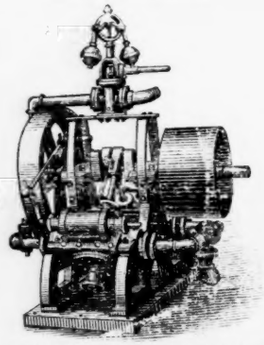

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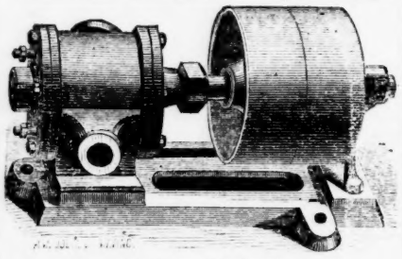

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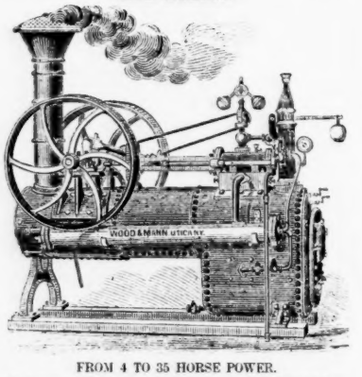

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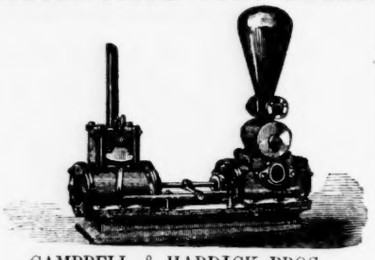

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